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## Sorgo Department.

The Rural World is the only journal in the United States having a special department devoted to syrup and sugar making from sorgho.

### Dr. Loring and Sorgho.

We have seen statements in the newspapers to the effect that Dr. Loring, commissioner of agriculture, had about as little faith in making sugar from sorghum as he had in growing tea in the Carolinas. When Dr. Loring, over his own signature, states that he has no faith in the culture of sorghum for syrup and sugar purposes, as a profitable industry for the American farmer, we will endeavor to put before him such facts as will give him faith and cause him to use his influence in aiding to extend the culture of this northern cane—if he is the man we give him the credit of being, but we have yet seen no such statement. We know that many predict that there will be a collapse in this enterprise, as there was once before, but the conditions that exist now did not exist then. If we had only the varieties now, that we had then, it is barely possible there might be a failure, though there has been much advancement made since then. We know more about the best time to cut and work the cane, to find the most crystallizable sugar in it; we know more about the best methods of defeating and evaporating the juice, and above all we have found varieties that did not exist then whose juice is richer in cane sugar. The Early Amber, the Early Orange, the Kansas Orange, and many other varieties had not been produced then, and they far surpass the varieties that were then cultivated in containing the elements of cane sugar. If Dr. Loring will attend the next meeting of the Mississippi Valley Cane Growers' Association, we think we can promise him that the scales will drop from his eyes, that is if he has any, and he will see this industry in its true light. Seeing is believing, it is said, and we would be pleased to have him here to see what even unskilled farmers can do. We will promise to show him numbers of samples of good merchantable sugar, made by unscientific men, and made profitably too—more profitably by far, than any other product on the farm. We know this is promising a good deal, but we believe we can fulfill all we promise.

### Report on Sorghum.

At a meeting of the Executive Committee of the Mississippi Valley Cane Growers' Association on Monday, September 5th, in the office of Colman's Rural World at St. Louis, Mo., there were present: I. A. Hedges, C. M. Schwarz, G. C. W. Belcher, J. A. Douglass, Norman J. Colman and Professors M. A. Scovell and H. A. Weber of the Illinois State University.

The object of the meeting was to hear reports from the professors of their experiments the present season in making sugar and syrup from sorghum.

Several samples of sugar, melado, and syrup were exhibited by them which were pronounced by all excellent. The following is the substance of the report by Prof. Weber which is well worth the perusal of every one who cultivates sorghum:

#### PROFESSOR WEBER'S REPORT.

Professor Weber arose and said: The experiments in making sugar from sorghum, which we are now ready to report upon, were made at the chemical laboratory of the Illinois Industrial University by Professor Scovell and myself, and are a continuation of the experiments made last year, the results of which were laid before the Cane Growers' Association by Prof. Scovell and need not be mentioned here again.

It was hoped that the Legislature of Illinois would appropriate sufficient money to carry on these experiments on a larger scale and with approved apparatus. The bill introduced for this purpose failed to pass. The board of trustees of the Illinois Industrial University not wishing to see the experiments of last year dropped entirely made an appropriation of \$180 to carry on the important work.

The apparatus consisted of a Victor mill and two pans with wooden sides and copper bottom, one of which was used for a defeating pan and the other

for finishing pan. Both pans were heated over direct fire.

In the sorghum juice we have to deal with two kinds of sugar, namely, sucrose or cane sugar, which is crystallizable, and glucose or grape sugar, which is not crystallizable. The proportion of glucose and sucrose varies at different stages of development of the plant. The maximum quantity of sucrose is contained in the cane, when the seed is in the "hardening dough." After this stage of development is reached and the cane is allowed to stand in the field, the cane sugar slowly, but certainly changes into grape sugar. If the cane is cut this change takes place much more rapidly until the last trace of cane sugar has disappeared. In making syrup from sorghum no very great attention need be paid to these points, as glucose is just as well if not better adapted to the production of syrup than cane sugar.

Cane sugar is readily converted into grape sugar by boiling a dilute solution with sulphuric acid. All other acids act in a similar manner, even weak organic acids. The normal condition of sorghum juice is acid; hence to avoid a loss of cane sugar, the juice must be neutralized in the cold. The best material for this purpose is milk of lime. As the acidity of the juice varies in different varieties of sorghum and also in the same variety owing to different conditions of soil, climate, &c.—no definite proportion of juices and lime can be fixed upon. The only sure way is to test every batch of juice for itself. This can very easily be accomplished by the use of test paper (litmus paper). Acids turn blue litmus paper red, and lime turns red litmus paper blue. Sorghum juice in its normal condition always turns blue litmus red, owing to the presence of organic acid. When a body of juice is to be neutralized, milk of lime is continuously added with constant stirring until a slip of reddened litmus paper is slowly changed to blue when held in the juices. The juice is now in a condition in which, on subsequent boiling, none of the cane sugar will be inverted.

After thus treating the juice it was placed in the defeating pan, and thoroughly skimmed. We passed the defeated juice next through bone black, after which it was concentrated in the finishing pan, until a drop placed between thumb and finger, would stretch three or four inches. The result was a very light melado. Two days after boiling down the juice a known portion of the melado was separated in a centrifugal machine, yielding one-half in weight of sugar, of the grade of yellow C.

Calculated for one acre of sorghum we obtained the following: Melado 12,000 pounds, consisting of yellow C sugar 600 pounds, syrup 600 pounds.

As the samples before you show the sorghum taste is entirely destroyed.

Prof. Scovell being called upon for any additional statements, described an interesting and highly important experiment made with one-fourth of an acre of sorghum, which was raised upon a field, that had for many years been used for a barn yard. That part of the cane planted directly on the manure pile, contained about two per cent. less of cane sugar, than the cane from other parts of the field. It was found on working up the cane, that it was impossible to defeat the juice completely, owing to abnormal amounts of albuminoids present in the juice. On evaporation the cane sugar crystallized well; but the large quantity of salts present, makes the products apparently unfit for use.

This experiment is very valuable in showing conclusively the deleterious effects of barn yard manure.

#### Aid to Sugar Making.

New Jersey, by a law recently enacted, pays one cent for every pound of sugar made from beets or sorghum raised in that state, and one dollar a ton for the sorghum-cane from which the sugar is manufactured. This law is for five years, beginning with 1881.

COL. COLMAN: The above shows that Jersey leads all other States in encouraging the sorghum business. The west does not ask for State aid as individual enterprise is developing its merits.

F. A. WAINWRIGHT & Co.

Chicago, Aug. 18, 1881.

### Sugar Making.

G. F. Nutting, sends a letter to the N. E. Farmer and gives answers to numerous questions.

"Our process in Louisiana for treating the cane juice is to pass it directly from the mill into a sulphur machine where the juice is impregnated with the fumes of sulphur smoke; thence into clarifiers (square tanks, having a steam coil pipe at the bottom); there it is mixed with a sufficient quantity of lime to neutralize the acid in the juice, and by a moderate heating all the impurities in the juice rise to the top of the clarifier, or tank, are skimmed off leaving the juice clear and of an amber color; thence it is passed into evaporators (large copper tanks, with steam coils), where the juice is subjected to a very great heat, and by that means is reduced to a syrup of 22 degrees to 25 degrees B.; thence it is passed into a vacuum pan (25 to 58 in. in vac.) and subjected to a temperature not exceeding 140 degrees Fahrenheit, where it crystallizes, and when properly cooked, is emptied into a mixer, (a reservoir where the mass is gently stirred,) and from the bottom of the same it drops into a centrifugal machine having a speed of 1200 revolutions a minute. In these machines the molasses is forced out through the small holes (these machines being of sieve cloth at the circumference), leaving the crystallized sugar to be dipped out. When the molasses is apparently forced out, we dash in about a quart of water, which we call washing the sugar, and it leaves the crystallized sugar pure and white or off white, in proportion to perfect or imperfect clarification of the juice.

"It is my opinion that no one individual raising sorghum could afford to put up proper machinery (on the scale represented in the above description, we understand him to mean,) for making sugar, and without proper machinery no good sugar can be made. If a central factory was established, where from 10,000 to 15,000 tons of cane could be concentrated, I think sorghum cane sugar may be profitably made, provided an experienced sugar maker has the charge of the clarification of the juice. Such a person should be sought in Louisiana, and not in city references."

The following questions in regard to several points in the letter above given, were asked and answered as follows:

1. Is the sulphur process for bleaching, or for rendering free the coloring matter in the juice, or what for? Ans. For bleaching and rendering free the color matter and glutinous matter.

2. How much milk of lime to a gallon of juice, and is the quantity determined by litmus paper? Ans. It varies about 33 cubic inches of lime to about 500 gallons juice.

3d. At what temperature skimmed off? Ans. About 150 degrees in clarifiers, and about 212 degrees in the evaporators.

4th. How much sugar and syrup per acre? Ans. About 2500 lbs sugar, and 100 gals. molasses, from good cane.

5th. How many gallons juice from mill for 100 lbs. sugar? Ans. Can't say; about 100 lbs. sugar to 1400 lbs. juice.

6th. Is the sugar ready for market direct from the centrifugal machine? Ans. Yes. Syrup from first and second crystallization of sugar is reboiled in the vacuum pan, and 3ds are made from syrup of 2ds sugar.

"If the sugar boiler is competent, the residue from thirds of sugar contains no crystallizable sugar; only what is called grape sugar remains in the molasses.

"The liming of the juice varies from day to day, and in the event of soured juice, perhaps twice as much lime as for sweet, fresh juice, is required.

"The acidity in the juice is sometimes tested by litmus paper, but only when novices are employed at the clarifiers. The sugar maker of experience does not use paper, but fills a bottle with the juice and puts minute quantities of lime into it until the color pleases him. I don't think any particular rule can be given for quantity of lime, the juice varies so much.

"If your sorghum cane will produce 90 lbs. good sugar per ton of cane, I should say there is a profit in the business."

P. S.—Perhaps I may add that my own fourth acre of sorghum, grown in part from seed raised by myself in 1880, and the balance from seed obtained in Minnesota in 1880, which came up as well as from the same seed planted in 1880; the best now seven feet high, just about putting out the seed tassels, and will, apparently, ripen well by Sept. 20th.

I also learn to-day from J. A. Johnson of Norwich, Vt., that the eight or ten acres which he and his neighbors are growing is equally promising, and ten days ahead of last year. He has a mill and all needed fixtures for manufacturing this amount, and will be able, no doubt, to confirm the statements

made by the Louisiana planter, given above. Our trials in sugar making in 1880 more than returned 90 lbs. sugar per ton of cane, and we hope to do better still this year.

### MINNESOTA AMBER CANE GROWERS' ASSOCIATION.

[Reported for the Commissioner of Agriculture, by his stenographer, Mr. LeDow, and furnished the Rural World at the request of the Minnesota Amber Cane Growers' Association.]

The following letter from Gen. LeDow was then read: Department of Agriculture, Washington, D. C., January 15, Hon. Seth Kenney, President Minnesota Amber Cane Growers' Association:

Dear Sir:—The pressure of public business here is so great that it looks to me now as if it would be utterly impossible for me to attend the coming convention. This I regret more than I can tell you, as I wished to be present at your meeting, not only for the purpose of obtaining all the information that will be communicated by the members of the association, but also to impart such knowledge as we have acquired here during our past year's experience. I have no word or take back of anything that has been uttered with reference to the manufacture of sorghum. Our experiments here have been thoroughly exhaustive, both in the laboratory and with regular sugar mill machinery, and we have obtained as good results as we had any right to hope for, considering the circumstances. At the start, we made some three or four barrels of sugar direct from the cane, giving time for granulation. We had but a few days run, as you may know, before frost took us, and after that our sugar boiler concluded he could make only molasses, and the balance of the cane was therefore run to syrup.

From this molasses, on re-boiling in the vacuum pan, we have made several barrels of as fine sugar as can be found anywhere. I have sent a number of barrels of syrup to the Wilmington Beet Sugar Factory to have it run through the bone black clarifier, in order to decolorize it and improve the grain. No return has yet been made from this, so that I cannot speak of the results positively.

Our chemist has had in hand thirty-eight different varieties of sorghum—at least so-called different varieties, many of them we found to be the same under different names, but from them all we have raised twenty-five distinct varieties in our grounds. The analyses of these canes shows some of them to be poor, some of them to be good, and some to be excellent. The best of them will produce from 1000 to 1500 pounds of available crystallizable sugar to the acre and about one-third, i. e., 800 pounds of molasses.

I learn from reports of yourself and others that the cane juice in your locality this season was toward its close remarkably poor in sucrose, and the reason therefore is said to have been continued rains and warm weather in the fall and suckering of the cane.

Of course, when the cane commences to grow again at the joints and make suckers, you may expect a deterioration of the juice, and upon this point I presume much information will be elicited at the convention. I think that a better knowledge of the manner of growing and handling the cane would have secured better results, even from the cane that was worked in the northwest this past season. It is altogether probable that cane on adjoining farms may show different results in the same season, but much more would I expect to see different results in different modes of treatment—keeping off suckers, cutting and storing the cane at the proper time, in view of coming frosts and wet weather, &c. The great advantage of your meeting will be the comparison of the different modes of handling and the discussion of different modes of treatment from which all will be benefited.

I send you a sample of sugar to which I would like to call your attention. Its light color is due to its having been purified in a glass filter, in shape like one of the old-fashioned loaves of sugar that were so common years ago.

The black, thick mush sugar was placed in this vessel, and on top of it, at the open or large end, was placed a piece of cotton cloth, and upon this was put two inches of good brick clay, well wetted, making a mud considerably thicker than would be used for making bricks.

This was taken out every morning, wet up and put back again, and we found that was better than to pour water upon the clay, the latter method being objectionable because of the tendency of the water to form little channels and work its way down unevenly through the sugar. I think if some porous substance like blotting paper were put on top of the clay and kept wet that it would be as well. We are trying different experiments in this direction. One notably by putting together a box two feet long and six inches high, piercing the bottom with small holes and putting a piece of wire cloth, such as is used in skimmers, in the bottom, and the mush sugar on top of this, then claying the top as before described. The result with this has been that in six days we have potted a lot of sugar similar to that I send you and in due time it will all be whitened. Of course, if the members of your convention have any mush sugar from which they wish to separate the molasses, I would be glad if they would try these experiments and report to me that I may try the experiment in a larger way.

By nailing a box together three or four feet high, or as large as you please, or by taking a small barrel or keg, or other convenient vessel, this experiment may be made. The bottom should be covered with

something that will not let the sugar run through with the molasses, and the top should be covered with a piece of cotton cloth, and from three to five or six inches of clay placed upon that, according to the size of the vessel. The wider the mouth of the vessel, the thicker the clay of course. When the clay is removed for the purpose of wetting, it should be packed down even and tight around the edges—when replaced so as to secure an even and perfect filtration, it being necessary only to let the water penetrate slowly through the sugar, so that it will liquify and run off the molasses, and at the same time will not dissolve too much of the crystal of the sugar. In this way those who have thick mush sugar can readily separate the molasses from the sugar, making both better fitted for table use. With my best wishes for the success of the coming convention, I remain, very respectfully, your obedient servant.

Wm. G. LeDow, Commissioner.

Col. Colman: I move that the communication be filed for publication in the proceedings.

The motion was agreed to.

The report of the committee on subjects for discussion at the next meeting was then read by the secretary as follows:

1. Proper season for planting cane.
2. Preparation of the soil.
3. Seed—different varieties.
4. Planting in hills or drills.
5. Mode of culture.
6. Harvesting proper time—topping, stripping and bundling.
7. Density of juice.
8. Handling of the crop.
9. Treatment of the juice.
10. Power—steam or horse.
11. Bagasse for fuel.
12. Quantity of sugar and syrup per acre obtained.

Col. Colman: I would suggest that another very important point be added to that, and that is defecation of the juice.

The addition was made.

The committee on resolutions, through its chairman, Capt. Blakely, made its report.

The report was agreed to.

A Member: There is a little more light wanted in this bagasse question. There are those here who have burned it, and I want them to tell how they do it.

A member explained by a diagram his method.

The convention ordered a barrel of sugar sent to President-elect Garfield.

[TO BE CONTINUED.]

### Correction.

In the last number of our paper we printed the word alumina in Mr. Ashbaugh's letter ammonia and the same in Mr. Hedges' reply to Mr. A. There is more difference in the two chemical ingredients than in the two words.

## Agricultural.

### Early Planting for the South.

Advice is cheap, but then, one is not obliged to take it, you know. Notwithstanding, seeing the RURAL WORLD has a great many subscribers who cannot profit by advice, which may be proper and adapted for the central section of the Mississippi Valley, I incline to proffer a little seasonable advice to our southern friends, and they can read again the first line of this paragraph and govern themselves accordingly.

Let it be understood that I am speaking to practical farmers and gardeners. St. Louis has not the advantages of Chicago as a great shipping and distribution point, but she has a population of nearly a half million of people, and these must eat to live. As to variety of food, there will be little choice this year. The markets are bare of vegetables, and such as can be procured from the north are very high. This is the case to-day—what will it be in February or March next? In view of these facts, I would say: Prepare everything needful in the way of fertilizers, seeds and implements, so that you can furnish vegetables for St. Louis and near markets. Among the kinds which should be planted this fall, I name Irish potatoes, cabbage, beets, carrots, cucumbers, onions and any other kind of vegetables which will bear transportation and mature early.

Next prepare your crates—barrels and boxes—ventilate well and ship only the best. This will pay the best. Next in order, dig around your orchard trees and manure or mulch if possible. We know that only your summer apples will bear shipping, and those should not be picked until they are very nearly ripe.

As soon as your ground is in order, weed out and mulch your strawberry beds and other berry patches. These fruits will be looked for early and eagerly, and bring good prices.

And in passing, allow me to say to all the readers of the RURAL WORLD that very prominent among the short crops of this season is cotton. This

the readers living in the south know very well; hence it will pay, whose ever can avail himself of the chance to purchase your supply of cotton goods for the next year at as early a date as possible before the rise takes place, which is sure to come, if all signs fail not, and thus put money in your purse.

And now by some eccentric "flight of fancy," my mind in a moment, as it were, travels from Florida, Texas and Tennessee to the extreme north, even to Minnesota and Manitoba. Would that I could reach every man who owns a foot of land in those parts? What will you do when once you have robbed (skimmed) your land by four or five successive crops of wheat? Your mode of culture returns nothing to the soil. Even a full closet becomes empty by your drawing continually on the contents, unless you fill up again. Allowing that you scatter your straw to some extent, and then burn it to have it out of the way, of what value is the slight deposit of ashes, which, like as not, the storm king carries out of sight the first night he gets in his work. Besides, wherever straw is burned on the cultivable land, the heat or rather fire destroys all the organic matter (decomposed vegetable deposits), which are the most valuable parts for furnishing plant food—so that every time a fire passes over the land, it is injured to the extent of a crop. What a suicidal method of farming is thus indicated?

What can you do in your rigorous climate to bring back your soil to its original fertility? Perhaps you can sell it to some wise man (?) as highly improved. You are too far north to make stock growing profitable or even possible. This cannot be done where the herds will have to be fed and sheltered for at least eight months in each year. I wonder that our erudite (ex) commissioner of agriculture did not suggest the importation of reindeer or something of that sort. It would not be any more wild than the introduction of "that great ship of the desert," the dromedary, which I believe was really attempted for other sections of our great country.

There is, however, one thought which may have some practical value as to farming in the north and northwest, viz: the cultivation of large tracts of rye sown very early and the pasturing the same with the hardiest sheep. On a thousand acres, there would most likely be bare spots of acres, which the sheep could reach all through the autumn and winter months. White beans could also be grown as field crops and fed to the sheep, and whenever practicable, on account of the weather, they should be huddled by movable hurdles from place to place, when they would thus very much enrich the soil.

Flaxseed is also grown to some extent in northern Iowa and Minnesota. This requires also a very rich soil and draws upon it more than a crop of wheat. The oil mills of Minneapolis extract the oil and ship the oil cake direct by way of the lakes to England, where it is fed to stock; quite as much to enrich the manure as to fatten the cattle. Now, here is another leak in Minnesota farming. Every ounce of this oil cake should be made into meal, where the oil is extracted and fed to Minnesota stock.

Again, in connection with sheep farming, large crops of carrots, turnips and mangel wurzels should be grown and well housed in cellars and bins. These are relished by the sheep, conducive to their health and fattening to their condition. This is briefly outlined a method of fattening sheep, which requires little or no corn; and seeing that the sheep farmer obtains really two crops a year, viz: wool and mutton, it may be made profitable for the sake of these, and be advantageous of keeping the fertility of the soil up to the standard, so that an occasional extra crop of wheat, and in favorable seasons, also corn may be grown.

CHAS. W. MURTFELDT.

Kirkwood, Mo.

### From Platte Co., Mo.

We are still suffering from drouth. Corn crop very short. Wheat yielding from 8 to 10 bushels of an inferior quality. Stock water is getting very scarce. Pastures parched up, much of the grass being entirely dead, all stock require feed in fact we have nothing in prospect but hard times.

J. E. M.



## The Grange.

[The Rural World welcomes to the Grange Department communications from Missouri and all parts of the Mississippi Valley from members of the order. Brief notes of what is going on in the order, or of matters pertaining to it will be cheerfully published.]

### Official Grange Paper.

At a meeting of the executive committee of the Missouri State Grange, held in the city of St. Louis on the 3d day of December, 1880—all the members being present—it was agreed to accept the proposition, submitted by Col. Norman J. Colman, for publishing the official Grange communications in the Rural World during the two ensuing years.

A. M. CORREY,  
Secretary of Executive Committee.  
Knob Noster, Mo., December 6, 1880.

### Rolla State Grange Resolutions.

The Missouri State Grange, at its late session at Rolla, unanimously adopted the following:

Whereas, COLMAN'S RURAL WORLD was one of the first papers in Missouri to espouse the Grange cause, and to urge the farmers of the State to organize themselves into Granges; and

Whereas, it has ever been the faithful, earnest and consistent friend of the Grange and of the agricultural interests of the State, zealously laboring to advance every agricultural interest and to elevate the profession of agriculture to a higher standard; therefore, be it

Resolved, That the Missouri State Grange cordially indorses COLMAN'S RURAL WORLD and recommends it to the support of the Patrons of Husbandry of the State of Missouri.

**Missouri State Grange Meeting.**  
EDITOR RURAL WORLD: The Executive Committee has named Jefferson City as the place for the meeting of the State Grange. Time, third, Tuesday, the 18th day of October. Mayor Cox and many of the citizens offer a cordial welcome, and promise such attention as will make the meeting pleasant and successful. Ample hotel arrangements have been made. The Hall of the House of Representatives and Senate chamber are at our service.

JOHN WALKER,  
Ch. of Ex. Comt. Mo. S. G.

### An Important Decision.

Judge McCrary, of the United States Circuit Court, has recently made a decision of more than ordinary significance. The case was that of the Southern Express Company against the Memphis and Little Rock Railroad Company, in which the express company sought legal protection against a refusal of the railroad company to permit it to do business over the line of said road. The decision was to the effect that the railroad company was bound to carry goods for the express company, and must not discriminate against it either in favor of itself or of other express companies; and the judge went on to declare that he had no doubt of the power of the court to fix the maximum rates to be charged for the transportation of express matter by a railroad, though as a rule an order for this purpose should not be made "until after a reference to a master, and a report by him after a hearing."

It will be observed that this decision asserts in plain terms the right of the courts to prevent railroads from discriminating against one class of customers in favor of another, and also to establish a limit for freight charges. We believe this is the first decision of the kind by a court of such dignity, and if sustained by the Supreme Court—as good lawyers say it must be—it will mark the opening of a new era in our jurisprudence. The principal announced by Judge McCrary goes to the very core of the railroad problem. It brings railroads within rules governing common carriers, and deprives them of special privileges. In other words, railroads become, in a sense, public highways, where all customers must be treated alike, and from which none can be excluded either outright or indirectly. It is, in the amplest way, an anti-monopoly decision. The rights of the public as against the corporations are not only distinctly recognized, but a remedy is pointed out, under existing laws and in a rational manner. It is a decision upon broad general grounds, which substitutes a principle of common law, operative all over the country, for all local statutes and regulations.

The importance of such a decision by a court but one step removed from the highest in the land cannot easily be over-estimated. It furnishes a new proof of the fact familiar to lawyers, that the courts take notice of and are gradually influenced by the progress of civilization, and that one of their chief functions is to harmonize the vital and unchangeable principles of law with the varying needs of industry and commerce. The railroad has grown to be an integral part of the life we live. Our system of trade and intercourse is largely subject to its influence. It is potent to decide, in great measure, the prices of what we buy and what we sell, and we cannot do business without availing ourselves of its assistance. An agency so extensive and so essential assumes by its own workings, and in spite of private ownership, a public character; and the courts are bound to take notice of it as such, and to protect the people against abuses in its operation. Such we understand to be the basis of Judge McCrary's decision. It ignores technicalities and primitive conditions, and treats the railroad not as a private corporation amenable to State laws, but as a great public factor in the affairs of life, which must be made to conform to general principles of justice and equity.

If we concede that Judge McCrary is right—and we do not undertake to say that he is wrong—it almost necessarily follows that the same rule must be held to apply to the telegraph, and

in time, perhaps, to many other similar enterprises, as they shall one after another come to be of such public importance as to justify placing them with the railroads. We do not see how, in the case of the telegraph, it would be possible, under this decision, to avoid declaring that contracts with press associations or boards of trade for the transmission of news to certain parties exclusively are contrary to public policy and infringements upon the right of the general public. This is one of numerous questions that will be likely to arise very soon, if Judge McCrary's decision shall be affirmed by the Supreme Court. It is evident that the marvelous progress of the country in new appliances for the transaction of business and the facilitation of intercourse is bound to disturb our jurisprudence in a notable and far-reaching way. Perhaps we shall thus adjust a great many things which now promise to give us infinite political trouble. The simple precepts and precedents of the common law may be shown to have a flexibility and an adaptation to emergencies that will provide an easy escape for us from grave dangers which are already casting their shadows before—Globe-Democrat.

### The Road to Wealth.

If the "Arabian Nights" were to be rewritten, the miraculous production of wealth would not be represented as the result of rubbing rings or old lamps, or by any such puerile performance. Nor would the instrumentality of genies be required to build magnificent edifices, serve princely repasts, and pour out a stream of money on the lucky master of the spell controlling the active spirits of the earth and air. The new Arabian Nights would put the hero of the tale in the position of a railway builder and manager, and all the opulence and magical transformations would follow as a matter of course. Perhaps, after all, the eastern myths were but parables prefiguring the gigantic enterprises and achievements of the railway kings of the far west. The figures will hold even to the extent of comparing the merit and labor of Aladdin in the accidental furnishing of a lamp, and the disproportionate good fortune thereby attained, to the deserts and efforts of the railway kings, as compared with the tremendous power which they wield and the enormous fortunes they amass. The comparison holds good, too, if the railway kings are regarded as the mere fortunate possessors of a dusty talisman, and their obedient slaves a race of beings, capable of doing anything they choose, but ignorant of their power, and through that ignorance made the slaves of a trickster. The railway kings are the Aladdins of modern times, and their powerful but servile genies are the people—farmers, mechanics, and laborers.

These remarks apply not only to Vanderbilt, who inherited his railway fortune, and Gould, who acquired his, but also to the magnates of the Central Pacific, who have made railroads and money in a manner more mysterious than either Vanderbilt or Gould. The four incorporators of the Central Pacific were Hopkins, Huntington, Stanford and Brocker. After getting land and subsidies sufficient to build the road three times over, and being allowed to issue stock and bonds guaranteed by the government, they formed themselves into a construction company to do the work; make contracts with themselves to prevent disagreeable competition; rake in all the profits of the enterprise and keep them in the family. To conceal the profits of operating the road and present some justification of the rates charged on it they have had to go to work building other roads, or, as they would say, capitalizing the earnings. But such was the amount of money made that they could not put it in the ground fast enough, and have had to resort to other means of concealing it. By the Credit Mobilier scheme they were enabled to put a little of it into the pockets of Congressmen and other high officials. The Credit Finance Company was formed to hide another portion of the gains, this was followed by the Western Development Company; this by the T. H. H. and C., and this by an account on their books under the head, "Charles Crocker, Trustee." All these had dummy directors, and were so many modes of distributing the enormous gains of the original company, lest the people should clamor for lower rates in view of the disproportionate profits.—Prairie Farmer.

### Dangers in American Politics.

The Rev. Henry Ward Beecher said, recently, in the course of a sermon concerning the dangers of American politics, as follows. The report is taken from the New York Tribune:

There seems to be a sentiment that great men are set above the ordinary canons of morality. The two great dangers in national life are a people corrupted and corrupt rulers. Neither can long exist with the other in corrupt. It is an enfeebling moral atmosphere that gives to men of great gifts more personal license than to other men. Greatness confers prerogatives—but not to do wrong. Greatness gives the right to league with the devil, to lie, to drink, to act licentiously, to practice avarice, to go down to the animal from the angelic.

The men who are made great by position should be more scrupulous in conduct than any other class. Constables, sheriffs, justices, judges, members of legislatures, governors, counselors of governors, business men and members of cabinets—the country demands of all these that they shall be superior in all respects to those they have left behind. This expectation has been carried out in our line of presidents. No line of kings has had so many men high in morals as the line of presidents, from Washington to the one who closes the list for the present. They have been, with scarcely an exception, God-fearing men, and it is a matter of profound national gratitude. I can not say legislators have always been incorrupt, and all politicians examples for the young. But all public servants should be ordained by the secret order of morality as pure and virtuous citizens. Send men to the legislature, away from their families, and they sprawl over the moralities. Out of the atmosphere of their

native village, where every one knew them, and where other men do so, too, they melt and become flabby. Drinking is the almost universal argument and reward. In the army we could forgive men their tobacco and whiskey, but in politics there is no excuse. Men go in bar-rooms and lobbies and talk, then moisten, talk again and liquify, and so keep on pouring spirits down to keep their spirits up. Then there are the evils of unrestrained domesticity. The lures spread for men need not be described. The seductions and espionage brought to bear on politicians are infinite and if made public would make the cheeks in every virtuous household blush for shame.

There is too much indifference to the real authority of morals, to distinction between right and wrong. Party expediency is all that is looked to. There are many men in public life whose word I would not regard, and yet at home I would not doubt them. Many look on politics as a game in which all is fair; anything for success. Nothing should be more sacred than the service of the country, of the commonwealth. It should be an inspiration to young men. But most are gamblers in politics; it is a disgrace to fail, and their only virtue is success. The jugglers in politics, bribe-takers, believe in all is fair in their strife, are, many of them, estimable and pure in public life. They seem to have two or three consciences. But a drunkard or immoral man in politics can not be virtuous at home. These seem to have no consciences at all. They are in public life like New York Aldermen—they are "on the make." They say, why should I not make all I can? They don't know any better. If any man is unlike themselves they say he has some deep laid plan. Many would not be tempted by money directly; \$100,000 off road would be refused. Some would refuse and some would not. But if by six sentences a man could use the knowledge gained by official station so that a clique could make \$2,000,000 and he have his share, he would not regard that. This is right if a man has no honor. Otherwise it is wrong. Is it right for a senator to be the paid adviser of a corporation whose interests he may be called upon to legislate for? Would George Washington have occupied such a position? A man with a sensitive conscience cannot touch pitch and not be defiled. The increase of wealth in this country is something enormous. More and more money is being used in politics. The golden wave is beating at the foundations of the courts. Legislatures are almost universally venal. The aspiring young men are most susceptible to the influences. Let Legislatures, Courts, the Central Government let down the barriers of morality and young men are everywhere corrupted. Public influence vulgarizes young men, teaches them lying, dishonesty, corruption, and the nation goes down. I long for nobler manhood for America, for nobler successors to the Pilgrims, for higher tone of manhood, for elevation of the country by purer light and the seed of more heroes.

In the Times, of Philadelphia, we observe: Mr. John McGrath, 1236 Christian street, was cured by St. Jacobs Oil of severe rheumatism.

**The Anti-Monopolist**

**Anti-Monopoly Notes.**  
The anti-monopoly agitation in Jersey City, N. J., has discovered that the different railroad corporations centering there own untaxed property in the city valued at over \$50,000,000. The assessed property in Jersey City has never exceeded \$60,000,000, and is now less than that sum. Yet here is \$69,000,000 altogether untaxed. This is attributed to the influence of the railroads in the legislature of the State.

The New York Times in a late article regarding the encroachments of corporate power, says: "It is not only absorbing to itself the fruits of labor and the gains of trade, and piling up wealth in the hands of the few, but it is controlling legislation and endeavoring to sway the decisions of courts in its own interest. We are now at a stage in the contest when the people may vindicate their authority and place these corporations under the regulation of law."

The Riley Independent, of Kansas, pertinently remarks: "If it is wrong to pack or bribe a jury, is it any less a wrong to pack or bribe a Legislature or Congress? If having a personal interest in a lawsuit incapacitates a jurymen or justice of the peace from sitting on or trying that particular case, is a justice of a supreme court, who is biased in favor of railroads and other monopolies, competent to try a case of litigation between the monopolists and the people?"

The farmers of Iowa are organizing against another monopoly—the "barbed wire monopoly." They held a convention some months ago and the Governor of the State presided. A committee was appointed to wait on the owner of the patent barbed wire fence and see if it was not possible to obtain some compromise with him, and resulted in a failure. A Farmers' Anti-Barbed Wire Fence Association has been organized in Iowa with a capital of \$100,000, and the whole question will be thoroughly fought in and out of the courts. It is charged that late judicial decisions were obtained through fraud. There are said to be more than 200,000 persons interested in the movement in Iowa.

Commissioner Pink, head of the railroad pool on east bound freights, confesses that the attempt to put in force on August 23d the rise in freights from 12 to 25 cents per Chicago to New York, as provided for by the late meeting of the railroad kings in New York, cannot be enforced, and the result is wheat will not fall in price five to ten cents per bushel at shipping points by reason of the extra toll demanded. Too much cheap water transportation via Mississippi, the Eads' jetty and the lake; too much anti-monopoly talk; too much revival of Grange interest, especially on the transportation question. "Hold on" Patrons, organize, agitate, and educate. "There's millions in it" in better prices for your farm products.

Gave instantaneous relief. St. Jacobs Oil. Neuralgia. Prof. Tice.—St. Louis Post-Dispatch.

**COTSWOLD BUCK.**  
I have for sale one pure Cotswold buck, 4 years old, in Canada. The fleece from him this year was 19 lbs., and last year 19½ lbs., without extra care. An excellent breeder. Offered for sale because I do not want to breed him to his own produce. For terms, address H. B. MILLS, Neshy P. O. (St. Louis County), Mo. 35-3



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### Rescued from Death.

The following statement of William J. Coughlin, of Somerville, Mass., is so remarkable that we beg to ask for it the attention of our readers. He says: In the fall of 1876 I was taken with a violent bleeding of the lungs followed by a severe cough. I soon began to lose my appetite and flesh. I was so weak at one time that I could not leave my bed. In the summer of 1877 I was admitted to the City Hospital. While there, the doctors said I had a hole in my left lung as big as a half dollar. I expended over a hundred dollars in doctors and medicines. I was so far gone at one time a report went around I was dead. I gave up hope, but a friend told me of DR. WILLIAM HALL'S BALM FOR THE LUNGS. I laughed at my friends, thinking that my case was incurable, but I got a bottle to satisfy them, when to my surprise and gratification I commenced to feel better. My hope, once dead, began to revive, and to day I feel in better spirits than I have the past three years.

"I write this hoping you will publish it, so that every one afflicted with Diseased Lungs will be induced to take DR. WM. HALL'S BALM FOR THE LUNGS, and be cured. I have taken two bottles and can positively say that it had done more good than all the other medicines I have taken since my sickness. My cough has almost entirely disappeared and I shall soon be able to go to work." Sold by druggists.

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## Horticultural.

Edited by George Humann, Professor of Pomology and Forestry, Columbia, Mo. All communications for this department should be addressed to him as above.

### Farewell to Our Readers.

We shall depart on the 5th inst. for our new home in California, and when this reaches our friends, shall be already far away on the borders of that glorious State. We have accepted the management of a large vineyard enterprise and wine cellar, near Napa City, Cal., belonging to Gen. J. W. Simonton, formerly president of the New York Associated Press, and must hurry there, to work up the crop of seventy acres of grapes into wine.

We trust our readers will believe us, that it is not entirely without regret we leave a State, which has been our home for nearly forty-four years, where so many of our loved ones were taken to their last long sleep, where memory dwells on so many cherished recollections; but alas! also on so much that was bitter, mingled with the sweet, and where at last we had become identified, as we thought, with the noblest institution within its borders. But we became satisfied, during our last visit in California, that there is the true home of horticulture, and especially our favorite fruit, the grape; and when we were offered a situation there so congenial to our tastes, where grape culture promises to become the leading industry, and can never be fettered by unwise laws—when we also thought of our years of grinding and unfruitful toil, when it took hard and unceasing labor from morning until night, to gain the humblest living for our loved ones, and when we often asked ourselves, "Is this the reward for your unceasing labors for the benefit of the State you loved, perhaps, not wisely, but too well?"—we could not hesitate one moment, in justice to ourselves and our family, when we ought to go.

We know that we leave behind us many warm and cherished friends, and beg to assure them of our unceasing regard; we leave them with the hope that they will also kindly think of us, and that we shall sometime in the near future have the pleasure to take them by the hand in our new home, and show them its wonders. To the readers of the Horticultural Department we wish to say, that although we cannot well edit a department of horticulture in a Missouri paper away in California, we hope to remain in communication with them, and give them some jottings from the Pacific coast, if friend Colman will give them space in his paper. And above all, we hope they will cherish and support their State University and its Agricultural College, as the noblest and most useful institutions of their State.

We are glad that we can take with us the thought that this will be put on a surer basis, and has a brighter future opened before it, by the recent sale of a large share of the college lands, and that the necessary improvements can now be pushed forward with increased vigor. Our relations with all our colleagues, and especially with its noble president, Dr. Laws, have been very pleasant. We know from experience that its Board of Curators, and especially Maj. Rollins and the executive committee, always had the will to do their utmost, and as the means will be at their disposal, we think the active experimental policy will be vigorously and successfully pursued, which has already brought Missouri into its Agricultural College to the front in actual results. And if the people will but rally to its support, and urge the next Legislature to put up such buildings and improvements as are imperatively demanded by the growing wants of the university.

And so, kind readers of the RURAL, farewell. We hope that an abler gun than our's may henceforth edit our favorite department, but think we dare say that no one could be more in sympathy with the advancement of agriculture, and work for it more zealously, if not always well, than the one who will be "over the hills and far away," when this reaches you in your homes. May they be as cheerful and pleasant as they can be made in this dreary State; and may your coming years be more plentiful than this has been. This is the heartfelt wish of

GEORGE HUMANN.  
Columbia, Mo., Sept. 2.

### About Going to California.

Prof. Humann, I cannot refrain from thanking you for the splendid account you have given of your trip to California, and as I intend to visit and perhaps locate there shortly, and am anxious to get all the information I can concerning it, if it wouldn't be asking too much, will you be kind enough in some future number of the RURAL WORLD, or in any way you think proper, inform me or the readers of the RURAL WORLD (for many will be glad to know) the cheapest way to get from St. Louis, or Kansas City, to any point in southern California between San Diego and Los Angeles. Hoping you will favorably notice this, I beg to remain,

Lebanon, Mo. F. S. CLARK.

REPLY.—The best route to southern California will be by the south Pacific route and the cheapest way is to procure an emigrant ticket, though it takes sev-

eral days longer. A second class ticket will entitle to all first class privileges except sleeping berths. It will carry you through on same train, and is perhaps the best way. HORT. EDITOR.

### Subsiding for Strawberries.

PROF. HUMANN: I will now redeem my promise, by giving you my experience in subsiding for strawberries. In the fall of 1879, I plowed and subsoiled nine-tenths of an acre of ground sixteen inches deep; in the spring following prepared the same and set to strawberry plants, mostly Chas. Downing, or Windsor Chief, and 500 each of Capt. Jack and Cumberland Triumph. I got a first-rate stand. I worked well during the summer, kept all weeds under, covered well during winter, and they came out in first-rate condition last spring. I marketed from the nine-tenths of an acre, 4,300 quarts, besides all the family could use through the season. The ground had been in cultivation for ten years to corn and potatoes, without any manure. I do not call this an extra yield, but about a full crop, whilst none of my neighbors got hardly half a crop and those with the Wilson an entire failure. The Downing and Miner's Prolific have gone through the severe drouth and scalding hot winds better than any other variety I have—out of seven or eight kinds. They are both quite green and looking well, though not making any plants—and just here I must say a word in favor of the Windsor Chief. It made the best yield and largest berries of any variety I have. I picked one box (quart) that held fifty-six berries, well rounded up and could have picked many more, and they picked about a week longer than Downing and carried their size well until gone. I had but a few plants of Miner's Prolific in bearing, so that I cannot judge properly of its merits, but it certainly promises well. I think if I had to make a selection of three varieties for all purposes, I would say Chas. Downing, Windsor Chief and Miner's Prolific. If my patch had been planted with Downing and Windsor Chief in alternate strips, I have no doubt my yield would have been one-fourth more. As to quality I would take Capt. Jack and Downing. The Capt. Jack bloomed too freely with me, consequently the berries were rather small, and, like its parent, rusted and blighted rather more than suited me. The Cumberland Triumph is the handsomest berry I have, but does not yield quite well enough, is rather soft, but will do for a near market. The Glenade I have plowed up root and branch, as unworthy of cultivation. I think originators are bringing out new varieties rather fast, being calculated to confuse not only new beginners but experts. I would like to know how to apply manure to a growing bed that will do the most good with the least labor? W. M. HOPKINS.

### Essay on Plum Culture.

Plum culture has, until the last few years, been rather an unsafe branch of fruit culture, for two reasons. First, because the trees of nearly all the finer varieties proved tender and short lived, and second because the cucullio destroyed nearly all the fruit, leaving the grower a few specimens instead of a remunerative crop for his labor.

But it has since become an established fact that plums can be raised as profitably as any other fruit crop, peaches not excepted. The Wild Goose, Chickasaw, Weaver, Miner, Shropshire, Damson can be root grafted on small yearling peach stocks, they thus grow from two to four feet the first season, and at one or two years old can be planted in the orchard at from 15 to 20 feet apart, even 25 feet is not too much for Wild Goose. Grafting thus on peach roots is no objection, as the whole length of the graft is set under ground, and will make its own roots in a few years, making the tree as durable as if worked on plum stocks, while the peach root will give it a strong start while in the nursery.

I can't see that the plum requires any special soil or cultivation; it will thrive let the soil be rich or poor, so it is warm and dry.

The trees should be cultivated liberally and not later than the first of August so they will have plenty of time to ripen up their wood. But little pruning is required, only just enough to keep the tree in shape. Trees, with reasonable care and culture, of the above named varieties, will begin to bear at three or four years from setting. Trees six or seven years old will bear from two to four bushels, bringing from \$2 to \$4 per bushel. The first shipments into Kansas City the past season came from Tennessee and Arkansas, and brought from \$1.75 to \$2 per one-third bushel box for Wild Goose and the demand was not supplied. Later in the season they sold as low as 75c. per box. Plums can be shipped one thousand miles with little risk; the one-third bushel box makes the best package for this purpose. The fruit should be carefully picked from the tree (and never shaken off) when about half colored, taking care to rub off as little of the bloom as possible.

In addition to the above named varieties I should plant some Green Gage, Lawrence, Favorite and Lombard, the latter is a profuse bearer, but is considerably inclined to rot.

G. F. ESPENLAUB.

An extensive apple grower cultivates his orchard six or eight years after planting, and fertilizes with bone dust and wood ashes. Afterward the soil is sown to grass, and annually enriched with good stable manure as a top dressing or mulch. The trees are pruned late in the autumn or early winter, and in the spring the bodies are washed with strong lime.

### Missouri Valley Horticultural Society.

COL. COLMAN: I send you our report for the month of August. Society met at the residence of F. Holsinger. We had an unusually good meeting and also good dinner, about two hundred were present. Meeting called to order by the president, J. C. Evans, minutes read and approved. Reports of committees: Hopkins reports many strawberry patches as ruined by the drouth, especially Wilson's; his are still looking well. He attributes it to the land being subsoiled sixteen inches deep before planting, is satisfied that it pays to do it.

Stone fruits. Only a few cherries and a good crop of Wild Goose and Mines. Mr. Baylis of Lee's Summit had 100 bushes from one acre, will have about as many of the Miner.

Holsinger has some trees that paid him \$10 per tree. Gano thinks the Miner fully equal to the Wild Goose. Ragan says that at Cadwallader he saw some English Morello cherries that were very full and fine; thinks them profitable.

Espenlaub spoke of a new cherry larger than English Morello, and later; tree resembles it, good bearer and hardy, called Ostina. Holsinger says take E. Richmond, Eng Morello and Ostina, and you have all the cherries you may want.

Orchards. Gano says the dry weather has injured them very much, the fruit is small and not growing any, but few trees have anything of a crop.

Grapes. G. W. Hopkins thinks we better dig up one-half of our Concord and we will be better off.

Espenlaub did not summer prune and is satisfied it is a benefit. They do not have enough leaves to cover the fruit as it is.

Ragan thinks better hold back and will get better prices.

Evans says Telegraph is one of the very best early grapes.

Vegetables. Bosley reports dead. Flowers. Ditto.

Ornamentals newly set have suffered badly, many dead, should be mulched and well watered. Drouth is killing very many.

Entomology. Holsinger says the apple tree borer was never so bad as at present. Everyone should examine his trees; you will find them full. Has found as high as twenty in one tree, are quite small yet. It will not hurt the tree much to cut them out now, but after they get in deeper they will do very much damage.

Codling Moth has been very plenty; can catch them with bands or rags in the trees.

Subject for meeting is the plum. Essay by Espenlaub, which I send you.

On motion the next meeting was postponed to the 4th Saturday in September. By motion also it was decided to make a show of fruits at the exposition at Kansas City.

The president and secretary were appointed to make arrangements with the Bismarck fair in regard to an exhibition; if satisfactory the society will make a show there also.

Espenlaub, Goodman, Gano and Reinick were appointed to go.

The society decided also to send a show of fruit to the Missouri Valley Horticultural Society. Two of our members' will attend. President J. C. Evans, and Maj. Z. S. Ragan, president of the Missouri State Society.

We will also have one delegate to Boston, to the National Pomological Society, Maj. Ragan will be there with some specimens of fruit. You will see that our society is alive to its work, and we are at it as hard as ever.

We had an addition of ten new members this meeting, our premiums were a plate of each of the following named:

Apples, Evans; Grapes, Evans; plums, Gano; Crab, Holsinger; peas, Goodman. Collections—Apples, Gano; grapes, Espenlaub. Hand and table bouquet, Bosley. Sales of fruit by auction after meeting brought \$0.40.

L. A. GOODMAN, Secretary.

### Peach Trees from Healthy Seed.

The very short life of the peach tree and the frequent failure of the crop by the late spring frosts has made the peach crop one of very great risk. Nurserymen and peach growers should be sure to select their seed from sections of the country where the trees have no yellows and are free from disease. Some years since I published an article on the culture of the peach, in which I called the attention of those growing fruit trees to get their seed from East Tennessee in the mountain district where the yellows is unknown among the native seedling trees. Orchards grow and live twenty and as high as fifty years, and have no more care than the native forest tree. Some of the more enterprising nurserymen acted on my suggestion, and so fully satisfied are they of the superiority of the native seed, both to produce larger and more healthy trees, that year after year they order their seed to be budded on, and also to grow new seedlings free from yellows and thus give the country a new and healthy start in their fruit trees.

I write this to give a more extended information on the subject. Peach orchards should be planted on high ground, and on the very mountain top, they are more secure from the late frost in the spring. The free circulation of air prevents the dew and therefore the frost from destroying the bloom and the young peach. Never plant an orchard in the low valley. There are orchards here on the top of our high mountains that do not fail once in ten years, while those in the valley fail frequently. Philadelphia Weekly Press.

### Orchard Culture.

A practical fruit grower gives the following as his system of orchard management: In three years I improved the production of my fruit trees from 15 to 200 bushels by treating them in the following manner: I first reduced the top one-fourth, then in the fall I plowed the soil as well as I could, it being quite rocky, and turned a short furrow toward the trees. As I worked from them I let the plow fall a little lower, and when between the trees I allowed the plow to run deep, so that the water would settle away from them in the spring. I hauled a fair quantity of coarse manure, pulverized it well and marked out hills, mounding each hill. I planted corn and beans and pumpkins. The following spring I repeated the same cultivation, and harvested the second crop of corn and beans and harvested a nice crop of corn, beans and pumpkins, which paid me satisfactorily. My trees began to grow very fast, and that fall I harvested 70 bushels of very good apples. The following spring I mounded the third time; planted it to potatoes, which grew very large but rotted badly. I made up the loss, however, by harvesting 200 bushels of large fruit. I changed the production of a yellow bellflower tree from three-fourths of a bushel to seven bushels, and sold them for \$1.25 per bushel, which I think a very good return for my labor. From my experience, I am of the opinion that most trees have too much top for the amount of roots, and a deficiency of nourishment for producing a developed fruit. I like fall or winter pruning, always cover the cut with grafting wax or a thick paint. After removing the limbs by thinning out the center of the tree it has a tendency to grow broad. Too many varieties are had.

### A Good Plum Crop.

C. Parente, of Ill., tells in the Fruit Recorder how he saved his plums as follows: I used carbolic acid and soap-suds on the plum trees last spring, as you directed in your catalogue, with perfect success. The curculio invariably takes the plum. Here the trees are loaded with fruit, but fall to the ground before they ripen. I used one large spoonful of crude carbolic acid to one wooden bucketful of soap-suds, stirring it thoroughly and then dashing it up through the tree with a tin-cup. I did this early in the morning, twice a week, commencing as soon as the blossoms began to fall, and continued until the fruit was about half grown. They were of the Lombard variety. The trees were loaded with fruit. The first that ripened were somewhat imperfect and wormy. I also picked from two trees one wooden bucketful that was entirely rotten, when they were ripe, and nicely were entirely free from worms or other blemish. I picked six wooden bucketfuls of fruit from those two trees, and they were delicious. No birds or anything to disturb it while ripening. Well, yes, it tempted the children.

### Horticultural Notes.

A very ingenious instrument has been patented, ostensibly for raising water from a canal or river to a certain height, and so enabling vineyards to be flooded in autumn, thus destroying the phylloxera. The invention can have other numerous applications; a well is sunk to a certain depth, so as to reach the canal or river; in the well is placed a vertical axle and shaft, so arranged that, on turning, the water ascends to any height desired.

Watch newly planted fruit trees. If they have but a few weak leaves only, it shows the roots have been injured; then prune them severely, which will make them grow freely. It should be a main object to make all transplanted trees not merely have leaves, but have new shoots at the earliest possible moment. If they are growing very well, they may be allowed to grow a few fruit. Over bearing on a newly planted tree is, however, one of the best ways of making it stunted for years.

The Gardener's Monthly calls attention to the recently demonstrated fact that a dead branch on a tree makes almost as great a drain on the main plant for moisture as does a living one. It is one of the most important discoveries of modern botanical sciences to the practical horticulturist, as by this knowledge he can save many a valuable tree. When one has been transplanted some roots get injured, and the supply of moisture in the best cases is more or less deficient. Any dead branch or any weak one, should therefore be at once cut away.

There is a difference of opinion among practical gardeners as to the value of summer pruning of grape vines, but here's the logic of it in a nutshell: In a state of nature the plant's object is to perfect the seed. But we do not care about seed, we need pulp, or at least the delicious flesh which surrounds the seed. By lessening the amount of seeds we increase the succulence of the berries left. Thinning off the bunches then becomes one of the most beneficial practices in vine culture. As a general rule it is safe to cut off one-third of all the bunches formed. In regard to the shoots themselves it is a good rule to have no more grow than we want to remain; but the superfluous ones should be taken out before they have made much growth.

No orchard or fruit garden can be said to be well managed if summer pruning is neglected, for the strength and vigor of the trees, bushes or vines, will be wasted in making superfluous wood instead of forming fruit buds for next year's crop. It is better to pinch off a tender shoot than to let it become a strong branch, needing the application of the knife, or it may be the saw. The old proverb which says "as the twig is bent the tree is inclined," is very expressive. If we wish to obtain well formed trees, we must begin in proper time and bring them into the proper shape by proper pruning. The formation of low branches should be encouraged in fruit trees for the double purpose of having the fruit within reach and shading the stem from the rays of the sun.

In a French work on pruning, translated by Prof. Sargent, the following rule is given: "Their system is based on the fact that as wood is also formed by descending, elaborated sap, a wound made on a tree can only be re-covered with healthy new wood, when its entire circumference is brought into direct communication with the leaves by means of the layer of young and growing cells formed between the wood and the bark. To make this connection it is necessary to prune in such a manner that no portion of an amputated or dead branch shall be left on the trunk. The cut should always be

made close to and perfectly even with the outline of the trunk, without regard to the size of the wound thus made. This is the essential rule in all pruning, and on its observance the success of the operation depends."

SUCCESS WITH PEACHES.—Purdy's Fruit Recorder says that all who have grown the peach know that as the tree gets old the fruit grows smaller. An experiment a year or two since has satisfied us that this need not be if the tree is properly grown. If cut back, or headed in, and fed with manure, the fruit will hold its large size on old trees—that is, if the grubs are kept out by a free application of wood ashes to the roots, and a coat or two of whitewash (with carbolic acid mixed in) put on the body and limbs. Our experiment was to cut limbs off from the old trees that were breaking down with age, and that were yielding very small fruit. We threw around under the tree plenty of manure, and worked up the soil, and last year the new growth had a load of large, luscious peaches. "Peaches are short-lived," is a common remark. So would you be if you were used and treated as peach trees. Keep the grubs out, feed them yearly with manure, ashes and salt, and keep them well headed in, and you will get peaches of large size for years, and your trees will live to an old age.

Don't fail to prepare for planting orchards. The farmer who has a generous supply of good apples in the cellar in winter, is to be congratulated. They make good pies, good dumplings, and are good stewed, baked and raw. They are healthy food for children and old folks, too. The acid of ripe fruit is said to be an antidote for worms in children, and that children which have plenty of apples to eat are never troubled with them. Baked apples and bread and milk furnish a repeat good enough for anybody. There are some persons that like milk, but it does not digest well. It forms a curd in their stomachs. If, however, they will use baked or stewed apples with their milk, they will experience no such trouble, as we have learned by experience. The juice of the fruit, and the fruit itself, prevents the formation of the curd, and the food taken is easily digestible, healthful and nutritious. Nearly all kinds of food are digested easier if fruit is indulged in at meals. The cheapness, healthfulness and nutritious quality of fruit, should recommend its careful culture by every farmer.

## The Vineyard.

### Treatment of the Grape.

EDITOR RURAL WORLD: Referring to an article "Summer Treatment of the Grape" in No. 31 of this paper, I wish to submit the following remarks.

Viticulture may be carried on in different ways. Grapes can be gathered in the primitive forests, and thus you may raise that luscious fruit by planting a vine near to a border or a black-haw tree and letting nature have her own way, while you confine your interference to the least possible amount. Or you have concluded that some labor and care ought to be devoted to grape growing; you plant your vines (probably Concord) in the ordinary way, trim them according to a certain rule, perform also some summer pruning by pinching off the fruit branch above the second or third leaf beyond the last "form" (embryo grape), and perhaps tying up a down-fallen cane occasionally; the ground you roughly plow once or twice, not caring for the tearing of the roots and rootlets; of manuring you think not—may the vines help themselves as best they can. You will make a few tolerably good crops, then your vines will decline in vigor one by another, and after a while your vine plantation will not pay even for the little labor devoted to it. You give up in despair. You are an unbeliever in "theories," but perhaps you might be persuaded to make an experiment on a small scale, in order to be convinced by your own experience. It is this: Select one row of your vines, or even one single vine, and try the following treatment:

Keep the ground around the stalk clean and loose by several hoeings during the season. The whole ground should be thoroughly worked to the depth of 5 or 6 inches once in two years, with a four pronged spading fork, care being taken not to injure the roots, and dig in as much as possible of decayed matter, also ashes, smashed bones, and some completely decomposed manure, rotten sawdust, etc. One superficial hoeing in July is sufficient; the object is the killing of the weeds before the maturing of the seeds, while to the ground a sort of mulch is given to protect it during the hottest part of the season. The trimming should be done before winter. You must not be too availing, nor demand of your vine more fruit bearing than is in just proportion to its vigor. Suppose it is a Norton vine, select two canes grown from spurs (or more if the vine should be very vigorous), as bearing canes for the coming season, and the same number of canes, designed for spurs, cut back to two or three eyes. All the rest of last year's growth to be removed. After having tied up your canes in an oblique direction, you wait for the forthcoming of the new shoots, allowing none to grow except from the eyes of the bearing canes and spurs. But not all the shoots from the former (which ought to have been shortened to the proper length) will be fruitful; those that show no forms must be removed. And what more must be done?

My maxim is, that not one single shoot or even leaf should be allowed to grow unless it answers a certain purpose. Therefore, as soon as the forms are clearly discernible, you pinch off the fruit branch right above the last form (do not wait to have more than 2 or 3 forms). Within 8 or 10 days new shoots (laterals) from the eyes opposite to the forms will come forth; these also must be shortened, but one leaf left. The same process must be repeated, then the eye of the lateral will produce a new shoot. Thus you will have an excellent protection for the growing fruit by two or three highly developed leaves near to the grapes, and no particle of the vine's vitality is squandered by the growth of leaves remote from the fruit. The idea is not to rob the vine of its necessary foliage, but to have the leaves where they do most good. What you save of vitality will be a benefit to the fruit and the canes designed for service in the next season.

The young bearing canes you let grow unchecked (if you are a *Realist* or *Riparian* vine, while those of the *Labrusca* family—the Concord, etc., may be differently treated)—tie them up and watch the forthcoming of the laterals, which must be treated through the whole season exactly like those of the

fruit branches. This is a matter of the greatest importance, as the bearing canes are considerably weakened by the laterals; strong bearing canes of the Concord you may shorten and permit 3 or 4 laterals to grow, expecting to get from them more and better fruit than from the main vine. As a matter of course, you select the most vigorous shoots for bearing canes, the others for spurs, and these you may shorten at pleasure. All sprouts from the old wood and the roots must be removed, unless unfortunately you have not a sufficient number of shoots from spurs.

After having treated a few vines in this manner for several years, compare your results with those achieved by the common procedure, and you will be astonished. It is for you to decide whether or not this greater amount of care and labor will pay better than the ordinary slovenly treatment. A great deal of the pruning, even of the hoeing, can be done by children, by your smart boys and adroit girls; they will learn to like this interesting occupation in the fresh air, and you will be cheered by the aspect of their rosy cheeks.

Make your noble grape vines an object of your affection (not a mere money matter), try and learn, never ceasing to do so, and your happiest hours will be those spent in tending your beloved and grateful vines. As for myself, I could not well do without this one indispensable relaxation, enjoying it daily even in my 83d year. FRED. MURKIN.  
Warren county, Mo.

### Taken Out of Bed.

DR. R. V. FIBBER, Buffalo, N. Y.: Dear Sir—I have to thank you for the great relief received from your "Favorite Prescription." My sickness had lasted seven years, one of which I was in bed. After taking one bottle I was able to be about the house. Respectfully,  
AMANDA K. ENNIS, Fulton, Mich.

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## The Cattle Pard.

### The Law as to Cattle Sales.

If a seller make a willful misstatement as to the condition of the property, or sell it as other than he knows it to be, or conceals a defect which the buyer could not by examination ascertain, it becomes a case of fraud, and the seller is liable to an action for damages. Concealment of the fact that a bull sold was impotent, or that a cow had ceased to breed, would be a fraud, unless they were sold to a butcher, as every animal of that character is assumed to be fit for the ordinary purposes of its existence. An affirmation in the bill of sale that a bull was a good and sure breeder would be a complete express warranty that he was such; and even if the seller at the time he sells makes such a statement verbally, it is a warranty; and if the bull proves on trial to be impotent, the purchaser can in either case recover back the price paid for him, and any damages he has sustained. A statement made by a seller of a cow "that she was all right," was decided to be enough to let the case go to the jury for them to say whether it amounted to a warranty or not, and they said it did; and the cow, being "proved to be unsound, damages were awarded against the seller. An animal is sound which is free from hereditary disease, is in the possession of its natural and constitutional health, and has as bodily perfection as is consistent with its natural formation. It is free from vice when it has no bad habits that make it dangerous, or that are injurious to its health, or that in any way diminish its natural usefulness. A cow under this definition could not be considered sound which had aborted more than once, or had failed to be with calf after several services, or milked from only three teats; nor a bull which had become impotent, or from too free use when young failed to serve in two cases out of three. A kicking cow is vicious, as well as one that runs at and attempts to hook any one with her horns.

Cattle, happily are not subject to the many diseases which render horses unsound, but such complaints as chronic asthma, cough which may degenerate into bronchitis, catarrhal fever, thick wind and broken wind, they are likely to have occasionally, and these are breaches of warranty of unsoundness. Lameness, whether temporary or permanent, is an unsoundness in a horse and would be in a cattle. So is diseased liver, as well as all diseases of the lungs. A mangy animal is unsound, or one liable to paralysis or rheumatism. And any complaint or accident which has in any way impaired, or is likely to impair, the quality or usefulness of the bull, cow, ox, or calf is an unsoundness. A description in a bill of sale of an animal of its pedigree would constitute a warranty that it was of the breeding so represented.

When sales are made at public auction or privately by printed terms of sale and catalogues, these form part of the contract and will be binding upon the parties. If between the publication of these terms and the sale any accident occurs to the animal, or if a cow aborts or calves, notice should be given of the fact, or the purchaser may, on discovering the change repudiate the bargain and recover the price he paid or damages, and in certain cases both. In taking a warranty it is safer to have every thing expressed, such as the pedigree, age, freedom from vice, and soundness, which the buyer desires to be assured of; and let the affirmations be positive. A bill of sale of "a horse four years old, constantly driven and used in a plow; warranted," was held to be a warranty of soundness only, and a bill of sale of a horse in which he was stated as "considered sound" was held not to be a warranty of soundness. So soon as the purchaser discovers that there has been a breach of warranty he should give notice, offer to return the animal, and demand his money back, if he desires to be reinstated in the position he occupied before the sale.

In sales at auction the secret employment of "puffers," or fictitious bidders to enhance the price unduly, is a fraud on the purchaser, who may avoid such a sale. The owner of an animal sold at auction has no right under the usual conditions of a sale that the highest bidder shall be the purchaser—to employ any person to bid on him for the purpose of enhancing the price. It is just as true in horse and cattle dealing as in other business, that constant and permanent success depends on character as well for honesty as for judgment. A man sells a bad animal to advantage, but he knows that if chargeable with an intention to deceive he is at once classed with the knave in the business.

The best way to sell a horse, bull, or cow which you want to get rid of is to tell the truth about it. A frank acknowledgment of faults will often obtain credit for a counter statement of good qualities. Mr. Bonnor, who a year since advertised his house and farm near New York, and laid stress upon the prevalence of fever and ague in the vicinity, probably sold them to a purchaser who considered himself and family proof against the "shakes." Let the fault of an animal be what may, it will suit some purpose, and will find a purchaser at its fair value. Many persons will buy an imperfect animal at a reasonable price, taking the risk of curing and getting a good bargain.—Richard Goodman.

### Polled Suffolks.

My experience and observation: I think both show that a pure polled bull or cow crossed on a horned stock will stamp their own no-horn character on so far more than half of their progeny, so that it will not be a very difficult matter to breed off the horns from any or all of our choice pure breeds, and that without materially changing their character.

I have no animal in my whole herd that I should fear to find loose in the stall at night, nor do I hesitate to turn them together in a very small yard for exercise. They play, but never fight, and there are neither "masters" nor "underlings" in the herd more than are found in flocks of sheep or pens of swine, and just as many will drink together as can squeeze their noses into a tub or trough. I do not write of the "muleys" because I have animals to sell, for I have none, but because I would like to see a still greater interest manifested in the breeding of hornless dairy stock. I have received numerous letters from farmers who have bred polled cattle in a small way, and all speak of their peaceful, quiet dispositions, and especially of the safety of the bulls. My own at from four to six years old have been as easily handled as ordinary cows, and I have never yet known one to become unsafe. Being without weapons they learn neither to offend nor defend. The Jamestown (polled Suffolks) can not be classed as a pure breed, nor will breeders be likely soon to get excited over extreme prices. The chief lesson learned from their career in this vicinity is that horns on dairy stock are not difficult to breed off, and that other things being equal, cows without horns are much more desirable than cows with them.—A. W. Cheever, in New York Tribune.

### Black-leg in Calves.

This is the season of the year when that dreaded disease, black-leg or joint murrain, is most apt to attack young cattle, particularly calves that are at pasture. An old subscriber at Waterbury, Vt., asks how to prevent the disease. Most persons would wait till their calves were attacked with the disease, and then write for information concerning the method of treatment and cure, forgetting, or not knowing, that this disease ordinarily makes quick work, and that an animal attacked with it will often be dead before an answer, even by mail, could be received from any distance. Mr. Youatt, in his excellent work on cattle, and which every stock owner should have within reach at a moment's notice, after devoting seven closely printed pages to a description of this disease, with some of the methods usually adopted in its treatment, says that, after all, prevention of this malady is the only cure worth notice. The disease is known among veterinary physicians as inflammatory fever, but among farmers in England and our own country it is known as black-leg, quarter-evil, joint-murrain, blood-sticking, shoot of blood, black-quarter, etc.

Our Waterbury correspondent says that nearly every year the disease makes its appearance among his calves and those of his neighbors, during the last of August or the early part of September after they have been turned into the fall feed and are just beginning to gain in flesh. This is generally the experience of those who lose animals by this disease, and plainly indicates one of its causes, or more properly its chief cause. The animal is being over fed, and is making blood too fast. The rich, tender feed of the mowing fields is too great a temptation to animals that have been kept a little short for some weeks, and they just gorge themselves and clog the machinery of the system. More food is crowded into the stomach than can be thoroughly digested, or more food is digested and converted into blood than the system can assimilate. It is like overcrowding a threshing machine with bundles of grain. There is a limit to the amount of work that any machine can do, as there is to the number of persons that can pass out of a church or hall door in a specified time. A little over crowding stops all progress. The animal system is wonderfully fitted to adapt itself to surrounding circumstances. Animals subjected for long periods or through many successive generations to certain conditions, whether favorable or unfavorable, will so adapt themselves to those conditions that any sudden change, either for the better or the worse, may cause trouble. It is very poor economy, as every one knows, to starve or under-feed an animal. All the food given in such cases is wasted. Merely keeping an animal alive, under ordinary conditions, is inexcusable. If on a voyage at sea, or during a snow blockade, it is found that animals must be put upon a short allowance to save life, the case is different, and a partial starvation may be the only prudent course to pursue. Working animals, cows in milk, and all animals that are of the proper age to grow and gain in flesh, must have more food than merely what is required to sustain life, and the more they are given, up to a certain point, the better will they pay for the food consumed; but there is a point beyond which it is positively dangerous to go.

A farmer with a good cow giving eighteen quarts of milk per day on full feed, thought, by a little extra crowding with grain, to make his eighteen quart cow a twenty quart cow. It took but a very few days to ruin his cow. The extra forcing clogged the machine, and he soon got no milk and in a little while had no cow. Calves and young cattle, that have been kept a little short during the dry weather and scanty feed of midsummer, should be turned into the rich summer feed of the mowing fields with a great deal of caution. They should be turned in to stay till they are so full that they can scarcely walk or breathe, but should be left out but a short time once, until the system has had time to accommodate itself to the change in the character of the food.

Bleeding and the insertion of setons in the dewlap are common methods of treatment for the prevention and

better to avoid the necessity of the practice, by withholding the excessive amount of rich food. This may be done by taking the animals out of the after feed as soon as they eat all they need, and letting them lie in a short pasture while they chew their cuds and digest the rich food; or they may be tethered by rope and pin, so that they cannot over-fill themselves. A few ropes, or a little extra time devoted to changing stock from one field to another are cheap compared to the loss and disappointment attending the sickness and death of choice animals.—N. E. Farmer.

### First Year's Growth.

Let any large dairyman look through his herd, says the National Live Stock Journal, and he will find his most profitable cows to be those of the greatest digestive capacity, and the history of these will show that they were thrifty growers as calves. The first year is the critical period in the growth of the future cow. A respectable size cannot be attained at two years old, without a vigorous growth the first year; besides, it should be remembered that it requires less food to produce a given weight the first year than the second. It will cost very little more food to produce 600 pounds growth the first year than 300 pounds the second year—this law of growth has become familiar to the readers of the Journal, both from precept and example. It is therefore very bad economy to feed heifer calves sparingly, as the older they become, the more it will cost to put on the weight required. After many experiments and careful observation, the practice of having heifers come in at two years old is rapidly gaining ground, both in the United States and in all the dairying districts of Europe. It is the general observation, that a heifer coming at two years develops into a better cow at four, than if she came in at three years; and this is attributed to the early development of the milking habit. It therefore becomes imperative that the heifer calf should have generous food and care the first summer. There can be no valid excuse for neglecting it. The patron of the cheese factory may raise very fine heifer calves upon whey by adding other food to it. He must not fear the cost of the small amount of other food required to balance the defects in the whey. The cost of this food will not represent half the extra value of the calves from its use.

### Shade in Pastures.

There are intelligent farmers who insist that shade in pastures is a positive disadvantage to stock, hogs excepted, the *ys* National Live Stock Journal. The argument usually advanced is that the animals, especially cattle, will form the habit of standing or lying in the shade and will not eat enough, whereas if they had no shade they would spend the time in eating. The answer is: would animals need time to digest their food as well as to eat it; and where the pastures are in the condition they should be, a considerable part of each day should be spent by the animal in rest, giving time to ruminate and digest the food eaten in the cool of the day. Secondly, during extremely hot weather, stock eat but little in the middle of the day, even when they have no shelter.

Probably much of the prejudice against shade in the prairie regions has arisen from the fact that often where there is some shade in such regions, it is made by a thicket of low growing trees and bushes along the borders of a slough, or some low, wet land. But shade in such a place is a very different thing from that furnished by trees on high, dry land, where the breeze has full play, and flies, gnats, etc., are found in no greater numbers than in any other dry place. True, there are some disadvantages accompanying shade trees—there is loss of grass, and some portion of the droppings of the animals is partially wasted—but we never see animals standing in a shelterless field during such days as have characterized July and August in much of the west, during the past season, without a feeling of pity for them.

English exchanges mention the Sussex breed of cattle with considerable commendation. At the recent show of Tunbridge Wells (where all the improved breeds were well represented), it appears that the local breeds—Sussex—was the best represented, and made a distinct advance in its position as regards other breeds. The points wherein the Sussex cattle seem to excel other breeds consist in their size, deer hair and activity. But they carry an excess of horns, and are unamiable brutes, according to the London Agricultural Gazette, which says that a person will think twice before he essays a second time to take liberties with a Sussex cow or bull. Large horns and an inclination to viciousness are serious objections, and as their desirable characteristics may be secured in some of the improved breeds we have already, it is not likely that the Sussex will be sought by farmers and others on this side of the ocean. Short-horns, Herefords, and other improved breeds we already have, and they will continue to furnish the greater portion of the stock with which to improve the common cattle of the entire country. The polled breeds are coming into favor, however, and the tendency here is to breed hornless and docile cattle instead of more horn and asperity of temper.

American beef is winning its way to favor rapidly even in set and staid old Scotland. At a recent meeting of the Edinburgh Parochial Board a committee was appointed to test it beside Scotch beef. Two quarters weighing 70-1-4 pounds each were selected. Both were boiled, meat and bone, and weighed separately with the following results: American meat 53-1-4 lbs., bone 8-4 lbs.; Scotch, 53 lbs, meat and 8-1-3 lbs. bone. Plates of soup from each were tasted, but no difference could be detected. It is not likely that the Scotch will be able to compete with the American beef in this respect.

## The Horseman.

### The Horse in the Fall.

Farm horses in the fall are often ungratefully neglected. Their hard toil in helping with the heavy work of the season once over, when only odd jobs await them, it is too frequent a custom to dock them of their grain, and allow them to shift for themselves on the pastures, often without needed shelter from the bleak wind and early frosts of autumn nights. After feeding while the poor animals get chilled and run about in the dark in search of warmth, which they often find only at the cost of a stumble or fall, resulting, often, in a sprain or a cut that injures or disfigures them for life. Then when warm and tired they lie down to rest, what wonder if they rise up stiff, spiritless, and not rarely suffering from a severe cold after their heated blood and relaxed sinews have been exposed to the blasts and frosts of a chilly night. When the days are stormy it is well enough to let horses run in the pasture, but every night should find them comfortably bedded and fed in the stable. Ingratitude to our fellowmen is justly considered an odious vice, but is there not often a strong taint of it in the treatment of these noble animals, to whose faithful help in all kinds of drudgery farmers are deeply indebted for full barns and comfortable homes?

### Colts Injured by Overheated Dams.

The majority of farmers are obliged to work their brood mares through the busy season, and with a little extra care it is possible to do this without injury to the sucking colt, but an injury that is hard to cure is often unwittingly caused this hot weather by permitting the colt to suck while the blood and milk of the dam is heated from hard driving or pulling. It is almost invariably the custom to allow the colt to suck the instant the dam is stopped, which should never be allowed until the dam is fully cooled off. The colt should be permitted to fill himself before the mother is put in the harness, and if it is important that it should accompany the dam, it should be tied at her side, so that it will be unable to draw milk until liberated, for it is much better that it should hungry a few hours than to take food while in a fevered state. If the mare is to make a long distance on a hot day and return at night it is best to leave the colt at home and draw the milk from the udder by hand once or twice during the day, and then upon returning allow the colt to fill himself as the milk is secreted. Colts injured by heated milk seldom recover from it for a year or two, and many times never. They become reduced in flesh, get lousy in the fall and during the first winter of their existence, when they need health and strength, as under any circumstances it is the most critical period of their growth, they have just about life enough to enable them to move, and the second summer, the proper time for development, is spent in the recuperation of lost vitality.—Ex.

### Breeding Trotters.

Dr. Ellwood Harvey in his Essay on the American Trotting Horse, says, the condition of parents at the time of conception has a powerful influence on the progeny—whether it be mental or physical condition. Offspring inherit both the congenital and acquired qualities of parents, as is well exemplified in the familiar case of dogs taught to hunt birds, and when they are found to stand and wait for a man to shoot, instead of rushing on to catch, as the instinctive impulse would prompt. The standing is an acquired quality, the effect of teaching, and yet it is transmitted by hereditary descent as certainly as any other quality.

Again, speaking of the undeveloped over fat trotting sire: "They are kept as if their use was procreating colts for beef, rather than speed, spirit and endurance. They are overfed and underworked; they are fat and feeble; their muscles and ligaments are not strengthened by exercise; their blood is not purified by the increased secretions that accompany a quickened circulation of blood; their courage and endurance are not developed by a long journey occasionally; their emulation is not stimulated by racing; and consequently, these qualities, all so desirable in the offspring, are not transmitted in the intensity and power they might be if a more rational plan were pursued. This again, looks as if we have been urging in the way of speed, dams and sires was in accordance with 'Enquirer,' the author of the article under consideration. "But as acquired, as well as congenital characteristics, are transmissible to the offspring, it is plainly important that the progenitors should be developed to the highest point in the direction of the end aimed at, consistent with the full and healthy action of the generative organs."

## The Shepherd.

Edited by R. M. Bell, of Brighton, Massachusetts, to whom all matter relating to this department should be addressed.

Steadily the stream of emigration goes towards southern Missouri. The drought has hindered some. The tales of short crops have deterred some from going to see. Those who have gone have found as much percent of corn planted in good condition as in southern Illinois or northern Missouri. There is no danger of starvation at all. Stock will have to rough it through the winter. But such as they have down there, are "wrestlers," and will make it somehow. The people are the same kind and will pull through. The new comers will wonder how it is to be

## Of Interest to Wool Growers.

**LADD'S TOBACCO SHEEP DIP IS NOT POISONOUS.** and may be used with perfect safety to the animal and those applying it. It is guaranteed an immediate cure for scab as a prevention of infection by that terror to flock masters. GUARANTEED to more than repay the cost of application by increased growth of wool GUARANTEED to improve the texture of the fleece, instead of injury to it as is the result of the use of other compounds. GUARANTEED to destroy vermin on the animal and prevent a return. GUARANTEED to be the most effective, cheap and safe remedy ever offered to American wool-growers. We have the most undoubted testimonials corroborative of the above. **Certain Care for Scab and Vermin at any season of the year. No Flock-master should be without it.** It costs 25¢ more than many unreliable preparations advertised for the purpose, but gives a PERFECT CURE WHEREVER USED. Its sale exceeds all other Dips combined, because it is the best. The leading flock-masters from Dakota to the Gulf unite in pronouncing it the ONLY CERTAIN CURE FOR SCAB AND VERMIN to be obtained. Send address for our new pamphlet containing testimonials, latest methods for treatment of scab and vermin, plans for dipping, apparatus, etc. Published for free distribution.

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will be done with less trouble than supposed. They are of the best class of people. Thousands of acres have been bought, and the improvements are begun. In the spring, many more will follow. They are going there, drouth or no drouth, and to stay all the same. Immense sales of railroad and other lands are being effected, and at prices satisfactory alike to purchasers and sellers. Many of these are mineral and timber lands, but large tracts have been sold for pasture purposes than ever before sold in Missouri. The selections for this purpose have been agricultural lands. The poorer lands are called pasture lands, but for the present buyers prudently take the agricultural lands. They have the choice, and buy lands in grass now rather than wait to put the poorer lands in grass, as will be done in time.

### The Drouth and Sheep.

The drouth has had a depressing effect upon sheep husbandry throughout the country. While sheep have generally done as well as other stock, the lack of feed and water has done more to lay the foundation of trouble than is to-day apparent to the careless herder. The outlook for winter feed has checked the enthusiasm of many, and many flocks are now offered for sale. This nervousness is premature and unnecessary. The good book tells us He tempests the wind to the shorn lamb, and the probabilities are we shall come through the winter as easily and safely as usual. The time for sowing rye for winter feed is not gone by yet. If this is done and the fall should be suitable for its growth and the winter should be an open one, very much valuable feed may be provided yet. The amount of dry feed can thus be lessened. Many shifts may be made successfully. Cotton seed, mill screening and feed of many kinds can be secured besides corn. Corn has been so much counted upon by western farmers, that when a shortage comes we feel it greatly. We will have to learn to do on less and will be surprised that less is better than so much.

For hay, corn fodder is an ample substitute and may be provided. Wild hay has been cut to an extent never before known and the quality has been carefully looked after. The recent and hoped for rains will give fresh pastures for late fall and perhaps early winter pasturage, and possibly we shall have an open winter that pastures can be used through the winter profitably. Lambs have been dying, with some flock masters, and need careful attention during the fall and winter or more of them will succumb to the ills consequent upon spare feed and bad water. The breeding time should be delayed this year a month if feed is likely to run short before lambing time. No successful lambing need be looked for with their starving mothers. Better to count safely upon the certainty of grass before lambs begin to come.

### Wool Growing in Texas.

A San Antonio letter says: The largest sheep ranch in Texas and one of the largest, if not the largest, in the United States is what is known as the Charley Callaghan ranch in Encinal county. I do not know the exact number of sheep on this ranch at the present time, but it must be between 125,000 and 150,000 head. It was founded by Charles Callaghan with nothing, and before he died he and his partner, Mr. C. M. Macdonnell, of Laredo, had upwards of 75,000 head of sheep and several hundred thousand acres of land. On his death his portion fell to a couple of nephews—one of whom, Mr. Charles Star, is now superintendent of the ranch and is successfully carrying on the lucrative business begun by his uncle. There are probably more than twenty-five ranches in this State where there are more than 25,000 head of sheep. As an indication of the increase of this business in Texas, you can look to the amount of wool shipped. The wool trade of San Antonio has more than doubled itself in the last two years. From a fair calculation it is estimated that the shipments have amounted to over 4,000,000 pounds, and there is yet in store 500,000 pounds, making an aggregate of 4,500,000 pounds of wool handled here the spring season just past. Add to that 4,000,000 pounds to be handled the coming fall, and we have 8,500,000 pounds of wool handled in San Antonio in 1881. Only three or four years ago 1,000,000 pounds of wool was an incomprehensible quantity in the experience of the wool-buyer of San Antonio. What will be the wool-trade of this city a few years hence? The sheep business in Texas is actually only in its infancy. Ten years from now we will laugh at our boasts of to-day. San Antonio is not the only wool market, and, in fact, it is not the first, as Corpus Christi takes that rank, and much wool is handled in Austin, Waco, Fort Worth, Abilene and other points in the State. Looking at it in this light,

rapidly growing industries in Texas, the great southwestern empire state of the Union?

### R. W. Gentry's Sheep.

You asked me for some items in regard to my flock. I note the following: A registered ewe, No. 138 Vermont Register, which I bought of Mr. Jewett at his shearing in March 1880, at a high price, had twin ewe lambs that season, and has done the same thing this season. We raised both pairs. The latter pair is by my two-year-old buck "Conqueror" (No. 504 V. R.), and are superb. My registered ewes clipped on an average 14½ pounds. I have 800 non-registered Merinos. It was the fleece of one of these, a yearling ewe, that was decided to be the most valuable wool sent from our State shearing to be secured. It was priced at 78 cents. This was quite a surprise to me, as I was not expecting my "grades," as I have been calling them, to beat all the Vermonters. The ewe referred to is six years old and sheared this year 20½ lbs.; last year 21½ lbs. Bear in mind, it stood highest as accurate wool.

These non-registered sheep are descended from the original flock my father left, and are as good class non-registered sheep as there is perhaps in America.

I enjoy reading your Sheep Department very much. I would not be without the RURAL WORLD for any consideration.

R. W. GENTRY,  
Sedalia, Mo.

### Breeding for Mutton.

A writer in the Philadelphia Record discourses as follows on breeding sheep for mutton:

Let any one who wishes make it an object to observe the many droves of sheep daily driven through the streets of our large cities, and no doubt it will cause some thoughtful arise respecting the mismanagement of sheep intended for the butcher. Indeed, it seems to an observer as if the farmers had selected the inferior kinds purposely for market, with the intention of withholding the best for breeding purposes. This is true to a certain extent, but the sheep that are intended for market could be much better if there was the distinction drawn, that is well known, between sheep that produce wool and those that furnish us with mutton.

Among the principal breeds that are noted for producing long wool and large carcasses are the Cotswolds, and our farmers have not been slow in resorting to them in order to elevate the standard of the common flock; but, strange to say, the farmers seem to revert to their old habit of exchanging rams instead of using more Cotswold blood. Why is this? It might be inquired. The reason is that in order to keep the Cotswold up to the degree to which it has been developed the richest pastures are necessary, and our farmers desire sheep that will gather up and subsist on herbage and grasses that would otherwise be useless without them. Those who make Cotswolds a specialty adhere to all the conditions necessary to make them perfect, and such breeders find them profitable, both for wool and mutton.

But our ordinary farmers desire a breed that will rival the native stock in hardiness and thrift, and if they wish to improve the character of wool on the native stock they use the Merino, but to breed sheep to sell as mutton the Merino is too small. For such purpose the Southdown is preferable. It is classed among the middle wools, and is not valued as highly for the texture or quantity of its wool as either the Merino or Cotswold, but is far superior to either for the butcher. The dressed carcass is interspersed with lean and fat, having a marbled appearance, and in quality of flesh, on the table, has a juiciness and tenderness unsurpassed. The Southdown is known by possessing a dark face and dark legs. Some butchers always leave the lower part of the legs undressed in order to show the customer the fact of the mutton being Southdown, which adds a higher price to it. In England this practice is common, and the buyer always rejects, unless at a lower price, the mutton that is not advertised with the dark marks on legs. The Southdown is as hardy as the Merino or native, and a cross from them gives perfect satisfaction. No one who makes it a business of marketing sheep should overlook them, and while not so large as the Cotswold, they really remunerate the farmer more, owing to being more easily kept.

There are also several other breeds of good mutton sheep, among them the Shropshire, down, Hampshire, Oxford, etc., but the Southdown, for a first cross, suits our common flocks better than the others. The term "down" as an addition to the name of the breed, generally signifies that they belong more to the mutton class than to those producing wool, but yet these breeds are good wool producers likewise. We have been so eager to breed for large size that we have overlooked quality to a certain extent, although we will gain size also in the cross with the natives. The farmer who sends a flock to market possessing uniformly the dark face and legs peculiar to the Southdown will be so encouraged with the quick sale and higher price that he will continue the experiment. Southdown rams are not as expensive as the Cotswolds, and the amount expended in the purchase of one will be a good paying investment, for the reason that they are better adapted to most farms and pastures than Cotswolds, and not only produce the best mutton, but also add greatly to the weight of the fleeces, which, though shorter than those from the Cotswolds and coarser than those from the Merinos, are far superior in length, texture and quality when compared with those from natives.

The best strengthening of mind and body is Brown's Iron Bitters. It is very soothing and refreshing in its effect.

### Traveling Men.

And it hard to keep in good health, owing to the constant change of water, diet, and the jarring of the cars. All the things which the



## The Home Circle.

### Letter from Enon.

Dogmatism is a natural sequence of egotism. That man who is convinced in his own mind that he possesses an eclipsing brilliance of intellect, who places the utmost confidence in his judgment as opposed to everybody else's, is fast drifting toward the raging sea of intolerant dogmatism; the impatient waves of which have caused, and are causing, more mischief in the world than can be readily estimated. So the danger lying in these three evolution links of self-esteem, egotism and dogmatism can be plainly seen—that is, when an individual possessing the second is enabled by force of natural ability, or other means, to evolve and enforce a dictum of the last. John Calvin, in religion, was a conspicuous and detestable example of such a man. After emancipating himself from religious serfdom, he set up a creed of his own, and burnt Servetus at the stake for daring to dissent from it.

But the larger number of egotists possess no great amount of ability. All these can do, is to continually ring chimes (?) on the big "I" and "we." One can judge of soil by seeing its product; and when "I, I, I, I," are constantly obtruding themselves upon notice in a composition or in conversation, the reader or hearer is apt to pronounce the organ which opens the portals of wisdom, possessed of very little gray matter.

Egotists are a pest and a nuisance to society. They should be systematically suppressed. If necessary, socially ostracize them. They will thereby have an excellent opportunity to learn that the world can dispense with their wisdom without injury to itself. Then, if any one is worthy of the world's attention, he will ascend from the valley of humiliation ready to seek recognition in a less aggressive way. Shakespeare says, "Beauty needs no orator." The words, not the truth, of this sentence will be changed if we say, "Merit needs no orator."

Let him who always trusts in his intuition, as opposed to results of careful, consecutive thought, ponder this simile. A pencil of light, coming through an aperture into a darkened room, will reveal all the motives in its path. In a like manner, a beam from the sun of thought, not a pale ray from the phosphorescent intuition, coming into a self-darkened mind, will show infinite error-motes dotting there. **ENON.**  
Clarksville, Mo., August 22.

### Essay On Socrates.

Considering the mode in which he was educated, I do not see how Socrates could have been anything but a philosopher. True he never was what we would now call a philosopher, but he was, as the Greeks used the term, the most philosophic of the Greek philosophers. Socrates, like many boys at the present time, was allowed to educate himself. In addition to what he could learn in Athens, he had all the advantages of the country boy. As soon as he was able to crawl, he began to experiment with the law of gravitation by falling from chairs, fences, door-steps, &c. He next investigated the nature and structure of the back extremities of the mule, and it is safe to say that what he learned in that direction was long treasured up, and was of much advantage to him in his subsequent life. But Socrates was always unlucky. Instead of getting the sugar bowl every time he cried, as he would have done had he been in Nina's care, he always got a severe "spanking." If he stole a melon, it was always sure to be green, or else he was sure to be caught in the act of theft.

Although it was honorable for a Greek to steal, yet to be seen with stolen property was the most disgraceful thing of which he could conceive. Socrates, although he stole everything he could get sight of, always felt mighty bad when caught at theft. It is said that he received twenty-six fatal injuries in falling from apple trees, and in running away from peach orchards. If Socrates went swimming early in the spring, his hair being so thick and woolly, his mother could tell he had been to the creek. All this experience made him wise. By experience he learned that causes have effect. In order to avoid fatal injuries he wore four vests, six coats, and three pantaloons. He could then go swimming, and steal apples with impunity. It was a wise observation of Socrates that gymnastics had declined since the Homeric age. This was owing, he said, to the loss of a valuable extremity. The early part of Socrates' life had been a failure; hence it was quite natural for him to gather young men around him and tell them how to make life a success. It is always so. The man who has been a regular "devil beat," to use college parlance, is the one most likely to offer you advice. An old man is very profuse in giving advice to a young lady about to get married. If you want to get sound and solemn advice about the habit of chewing, go to some filthy fellow who is chewing a piece of tobacco as gracefully as an old cow chews her cud. The drunkard, just about the time he thinks his satanic majesty is going "to draw on him at sight," is very apt to turn out a temperance lecturer.

Old Socrates was bound to be a philosopher. My education has been something after the style of his, and I know what kind of effect it has on a fellow who takes the advice of Socrates. Archimedes, when he ran through the streets of Syracuse, exclaiming Eureka! Eureka! "I guess," replied Socrates, "he had a pack of lighted fire crackers attached to his tail." Socrates never taught his

disciples in a school house. His instruction was practical and related mostly to the products of agriculture. He taught his pupils as he traveled through gardens, orchards, melon patches, etc. Socrates was accused of profaning the gods by one of his rivals. He made no defence, and cheerfully partook of the poison prepared for him. Thus perished one of the best, if not one of the greatest of the Greek philosophers.

If the value of a system of physiology is to be determined by its results, Bacon did more for mankind than all the Greek philosophers put together. **BON AMI.**

### Letter from Alberta.

I suppose in most families the dread season of housekeeping is about over, and the lords of creation can once more repose in peace and safety. They may consider themselves fortunate if they have not been called on to take a more active part in the play than merely keeping out of the way or in a good humor—such as shaking carpets, moving bureaus and bedsteads, taking down stoves, &c. If there is ever a time when a man is a useful appendage to a household, it is in such a time as this, providing you can persuade him to keep his temper through the entire process.

Doubtless we have all fixed up the "best room" in our several homes, as well as our circumstances would permit, and our good taste and judgment would suggest. Be the home log cabin, with its fresh whitewashed walls, or brown stone front, there is generally one room reserved and the nicest we can afford—the newest and best furniture has been put in there, the prettiest pictures adorn its walls, the brightest carpet in the house goes down here. A pretty bouquet is gathered and placed in it often to waste its sweetness on—not desert air surely, for this little eden is as unlike a desert as one could imagine, but at least on deserted air. A pretty ornament or handsome vase is sure to find a lodgment in this room. No wonder it is known in every house as the "best room."

But for whom do we fix it up so nicely? Do the husbands, fathers or brothers in the home enjoy it ever except on state occasions, when they stare and gaze at the strange objects opened up to their view, as if not knowing they had lived next door to them all the time? Even the women-folks scarce venture to enter after everything is arranged in perfect order, occasionally taking a peep in at the door to see if all is quiet as they left it. We close the shutters, draw down the blinds, and with secret pride, anticipate the time when some neighbor or friend will drop in to compliment us on our success.

And just here I want to enter my protest against living in dark rooms. Do let us open the shutters and let the beautiful sunshine in our parlor, or "best room," every now and then. It will brighten up everything, and lead fold more than praises from a multitude of friends can possibly do. If you are afraid of fading your carpets, lay a newspaper or piece of domestic in front of the window for the sun to try his strength upon. If flies are about, wire netting is the best to use, but mosquito net will do as well to tack over the window and is much cheaper. It will last a long time, if put on the inside, out of the wind and rain.

But to return to the dark room, though we will get out of it as soon as possible. Have none of you ever entered parlors that were so cold and bleak you felt like you would certainly freeze, if you had to stay there long? I called with a young lady and gentleman at the house of a new acquaintance. We were met at the door by a servant, who ushered us into the parlor and shut the door. The room was as dark as midnight; we could not see anything. We must have presented rather a ludicrous appearance, standing there like statues, or taking a step at a time and reaching in every direction for a chair. The ladies finally found a seat; but the young man went grouping round in the dark, hunting for a chair or sofa, and fearing he would not find one before the young ladies of the house would come in. It was our first call, and afforded us much amusement, as we had ample time to consider the situation and look around us before any one made their appearance. We were quite cool and collected, however, when at last the door opened, and a trio of bright lights entered, which lit up the dark room amazingly during the rest of our stay.

Generally, in riding by a house, you can pick out the parlor or company room by the shutters to the room being habitually closed. I often contrast that side of the house, so gloomy looking with the cheery, open appearance of the other. I have a friend who most all the time keeps two of the shutters in her parlor windows thrown wide open. I never saw her beautiful parlor darkened; she says she made it to enjoy. Of course, she does not let the sun beam in on the warm-st part of the day; it always looks so bright and cheerful in her home.

A few weeks ago I was invited with some others to spend the day at the house of an acquaintance. On arriving there, we were put in the best room. Everything was in perfect order—it was really a model of neatness and good taste. A great deal of home-made fancy work added to its beauty, and a

nice green yard lay outside, filled with trees and shrubbery. There were three windows in the room, but the shutters to each remained closed. It was a lovely day outside, but so gloomy within, although the sunlight tried its best to force its way through every opening, but it poorly succeeded. As we passed through the light, open sitting room, with its rag carpet and white muslin window curtains and open windows, on going in from dinner, I heartily wished to myself they would let us sit there again seated in the dimly-lighted room; and, my friends, I just whisper to you that I was really glad when the time came to leave for home. It is a positive mystery to me why many housekeepers will persist in keeping their guests in the dark. Is it because it is fashionable? Do they enjoy it themselves, or is there some long neglected nook or corner in the room they do not wish brought to view? For my part, I cannot imagine where the pleasure is; and the other day at the house of a friend, I asked liberty to raise the curtain a little after the sun had sufficiently passed the window as not to be considered an intruder.

Home Circle friends, if any of you come to visit us, you will get the full benefit of the sunlight, unless you happen to have weak eyes, when the windows shall be darkened with. But come! it is after 11 o'clock—there is a more cheery room in our home than this, and that is the kitchen.

Lafayette county, Mo. ALBERTA.

### Bon Ami.

It has not been my custom during my brief literary career, to treat subjects of such immense proportions as the above, but as Bon Ami's biography will certainly be written sooner or later by "great minds," my purpose is, to be his first, if not his best biographer. I have been led to this task by the urgency of the occasion. Do not understand me to say Bon Ami urged me to "write him up," for to be candid, his modesty is so great that he wouldn't consent to the matter at all if it were left to him to decide. My object, to be short, is to do a great man justice. And then, you are aware that writing a great man's biography, very frequently adds to the reputation of the writer, provided he don't use too many big words, Latin phrases, indeterminate innuendoes, and "incomprehensible hieroglyphics." For wisdom Bon Ami will compare favorably with Homer, Socrates and others. He was born in the United States of America, at a date extremely unknown to the writer. It is reported that a comet appeared the same year, but I give but little credence to it. I will just say that it was the universal decision of all that he was better looking and far more wonderful than the comet—and as a natural consequence, the comet, so says report, was utterly ignored, and the people feasted on the beauty and intelligence of the youthful paragon. Later, when he had nearly reached the age of maturity, he was sent off to college. A great many were unable to live out of his presence, so they moved to the place where our hero attended school. Several deaths occurred among those who were unable to move to the college. This shows the deep attachment which everybody had for him, and this popularity has never ceased to this very day. Well it was not long until our transcendent genius betrayed a keen appreciation for literature. This grew to a remarkable degree, and the first of his writing created more sensation than the authorities could allow in months. It was an essay, nobly written, finished with brilliant rhetoric—on the subject of "How I came to know so much." Everybody knew it was original, and as there was much wit in it, the people who read were convulsed with laughter until they became sorely afflicted with a literary disease called "criticism." This unhappy result somewhat dampened the ardor of our hero, but what was yet more unfortunate, he caught the same disease his manuscript had given to everybody, and he has not recovered yet. He then commenced writing for the RURAL WORLD. The editor was always very careful about admitting any one to the columns of his paper, but when Bon Ami begged like a gentleman ought, and presented his credentials, the editor good-naturedly let him in, where he is still showing his power as a writer. He is a very modest and retiring young gentleman, and would not speak harshly of anyone for the whole world. In writing to the Home Circle, he always respects the views of others, and hardly ever criticizes anyone. His letters are very short, for it is the short letter people most like to read. He never refers to Homer or Socrates without respect, and I think him abundantly respectable enough to associate with them. Among his virtues, I can say that he never uses big words in his letters; they are all very simple. A child could write I mean read them easily. He was recently of the chair of eloquent and modern languages in Yale College, but rejected it with disdain, preferring to follow out his original plan, that of becoming the best writer in the world. He is very popular with the editor. I understand. They say it was at Bon Ami's suggestion that the editor concluded the RURAL was too high at \$1.50, and made a deduction of 50 cents on the year in consequence. Truly he is a great man. Few to-day can boast as Bon Ami of wisdom. He is still living. So he is. **LYDD GUYOT.**

### Keeping the Anjou Pear.

Marshall P. Wilder, near Boston, Mass., the veteran pomologist and fruit grower, in a late letter in the Fruit Grower, says: My Anjou pear trees are now on their own roots, although many of them were originally on the quince. The fruit is gathered about the middle of October, very carefully, and placed in bushel boxes. These are piled one above another and protected from frost and rain by boards or shutters, where they remain until cold compels their removal to the fruit cellar. The boxes are then taken into a well drained cellar and piled seven high with slats between the boxes. Here they remain with no other care than opening the window on cool nights, so as to keep the ripening process dormant, whenever the cellar seems to need it. About the middle of November we find some of the fruit begins to ripen. Then we commence at one end of the row and select these for market, and so, from time to time, we go over them, retaining the hard and green specimens to the last. In this way we have the Bourne d'Anjou from November to March, or should they be desired in October they may be ripened in a warm room.

It is now forty years since I introduced this plan, and not only have I proved it thoroughly, but I have during the time eaten a pile of them.

It cures backache, kidney and bladder affections, and "bed-wetting" in children \$2. by druggists, or send by mail on receipt of price.

### A Neglect 4 Fruit.

It is called the huckleberry, whortleberry, or hurtleberry in different parts of the country. One variety is called the blueberry, from the color of the fruit. Some varieties grow on bushes four or five feet high, and more on bushes that seldom attain a greater height than two feet. In some sections of the country the bushes generally grow on bogs that are quite dry at most seasons of the year. In other sections the bushes are ordinarily found on sandy plains, hills or ridges. The bushes are frequently found growing in fissures of ledges or in the very thin soil that has formed on the surface of rocks. They always appear to be hardy and to thrive in spite of neglect. The bushes are of slow growth, but are very long-lived. The fruit is not luscious, like the strawberry, raspberry, or blackberry, but it possesses many excellent qualities. Being quite sweet, it requires very little sugar to render it palatable; whether it is cooked, or eaten as it is taken from the bushes. It will remain on the bushes several weeks after it is fully ripe. Being very firm it can be placed in quite large packages for shipment. For the same reason it bears transportation very well. The fruit is very good for eating before it is cooked, for making sauce, puddings, and pies, for drying, canning, and pickling. It matures after most of the small fruits are out of the way and before most of the large fruits are ripe. It grows where no other fruit can be raised, and is produced without expense. What is more in its favor, it generally produces most abundantly during seasons when there are small crops of cultivated fruits. In many regions sparsely settled on account of the poverty of the soil the gathering of these berries is a source of considerable profit. The amount of land in the states first settled occupied by huckleberry bushes is annually becoming smaller, on account of the spread of fires and the demand for land for agricultural purposes. Few attempts have been made to protect the bushes that grow spontaneously, and most of the experiments in cultivating the fruit have been successful. This is probably owing to the circumstances that persons have transplanted the bushes instead of raising them from seed. The seed readily germinates when washed from the pulp, planted in suitable soil, and covered with a slight coating of earth. The young plant grows well if afforded a partial shade. There is much land in the west that would produce large quantities of these berries that is now of very little value. Experiments in producing new varieties of berries and in cultivating the bushes on different kinds of land should be undertaken by persons who wish to increase the fruit supply during the season when it is least abundant.

### Snakes as Life Destroyers.

The loss of life in India due to the ravages of venomous snakes is almost incredible. Yet Consumption, which is as wily and fatal as the deadliest Indian reptile, is winding its coils around thousands of people while the victims are unconscious of its presence. Dr. R. V. Pierce's "Golden Medical Discovery" must be used to cleanse the blood of the scrofulous impurities, for tubercular consumption is only a form of scrofulous disease. "Golden Medical Discovery" is a sovereign remedy for all forms of scrofulous disease, or king's evil, such as tumors, white swellings, fever sores, scrofulous sore-eyes, as well as for other blood and skin diseases. By druggists.

### Piles, Piles.

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### The Apiary.

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"I would rather have common black bees with plenty of continuous bee blooms, than the best of Italians, Cyprians, Syrians, or Hungarians and poor bee pasture."

### Sleeplessness.

Remove the cause by regulating the bowels, by establishing good digestion and by quieting the nerves with Simon's Liver Regulator. Try it, and you will soon know the blessing of good health and sound sleep.

### Bee Notes.

Bees use large quantities of water during the hot, dry days of July and August. If they have not an ample supply handy, it should be provided them in some kind of an open vessel in which floats must be placed to keep them from drowning.

If a bee is pinched by you and stings you on the hand, remove the sting with your thumb nail and suck the place between the lips, and don't halloo "Ouch!" like an idiot, or be so reckless as to thrust the same hand back among the bees immediately.

Weeds or small brush set up before the entrances to hives will prove considerable of a barrier against robbers, as they dislike very much to approach the entrance by winding passages. For very bad cases of robbing a wet cloth hung over the entrance, and kept dripping is generally effective.

After the beginner has learned to distinguish one from the other—the worker cells, drone cells, and queen cells—and is able to trace the history of the egg to the perfectly developed bee, he can begin to rear some queens, practice artificial swarming, introduce queens; in short, make his bees subservient to his will.

The crystallizable sugar is easily and completely digested by bees, while the other is of a difficult and incomplete digestion. It is for that reason that pure cane sugar is better than honey for winter. For the same reason spring honey is better than fall honey; honey dew is still worse, and the juice of fruits are the worst substances for wintering bees.

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## Establishing Lines.

EDITOR RURAL WORLD: One of the worst evils, and one that we hear but very little is said about, is the continual changing of lines between farms, by different surveyors. A farmer hires a farm, pays his money therefor, hires a surveyor to tell him where this line runs, and how far his land extends. For this he pays more of his money and thus to hire a man or officer, who is a legalized officer of the state and county, supposed of course to be competent to perform the work required. After this is done, the farmer goes to work to improve his land actively. Upon the basis given him by this legalized officer, he builds fences, houses barns; clears up and cultivates the land. This all costs time and money.

In a year or two and after the farmer has spent considerable money improving his place, another farmer comes along and buys a piece adjoining the first; he too is another to know where to put his fences and improvements, he hires the county surveyor to establish his lines as the boundaries of his land, for which service he pays his money. The chances are that at this time this surveyor will run the lines a little different from what they will at first, and the first farmer finds that he has put his fence ten or perhaps twenty feet over the line; he is either forced to go to the expense of moving and resetting his fence, or as is the law in some states of losing his fence entirely.

This may not be all. Many times he is forced to move his house or his barn or other permanent improvement that has cost him considerable outlay.

The changing of his fence may only be temporary, the next surveyor will again change the lines and another move of the fence is made, and this is kept up from one year to another, or as often as parties joining him see fit to have their land surveyed, and pay for having it done. In many cases the party has nothing to do with this, but is obliged to move his fence. Another serious matter that must also be taken into consideration is the roads, we cannot expect good roads when they are continually being changed, but this is certain to be done as long as there is to be a continual changing of lines between farms.

There is a remedy for all this, let the lines or at least section lines and corners be once established, and then let them remain there.

It is unquestionably a fact, that very few surveyors will agree exactly where a certain corner should stand, and especially the case where they are to do otherwise.

When a surveyor is hired by a party to run lines, if he should find the corners and lines to be the same as the previous surveyor had done, their work would soon play out, they must make some change in order to keep up their work, and so the changing goes on.

There is hardly a farmer in the state but who has suffered more or less expense both of time and money, and in many cases to a considerable amount, and under the present system of surveying all over a section or township at any anybody's whim—who is able to pay for it—he is liable to be at more expense at any time; he may be at even more much expense in putting up his improvements, they may all have to be removed no difference how much loss may accrue to him, simply because the second surveyor sees it to his interest to change the lines.

If necessary let us have a general survey made, and permanent section corners established at least, and let it be understood that these are not to be changed, and in a great measure this continual changing of lines will be done away with. If this is done and we know where section corners are, and that they will not be changed every year, then we can work our roads to a better advantage, and can have better roads at much less expense of time and labor.

The farmer can also set his fences and make them permanent—can if he desires, set out rows of trees along the fence especially those that are along the roads or highways, and thus beautify the country as well as improve his own farm.

Besides all this a large amount of hard feelings and litigation between neighbors who by all means should be friends, would be done away with. A goodly sum of money that is worse than thrown away will be saved.

How many times in going over the country you see two fences set as close together between two farms as it is possible for them to be well placed, the space between them is generally overgrown with weeds, we usually hear this called the "devil's land," and on inquiring the reason you will find it is where two farmers cannot agree as to where the line separating their farms should be, and each one has built and insists on keeping up, through petty spite a separate line of fence, where one would answer, simply because they have got it out with each other by this continual changing of lines.

We are in favor of agitating this until this worst than nuisance is abolished, it may give a few surveyors less work to do, but it will save farmers a large amount of time, money and vexation of spirit.

N. J. SHEPHERD, Pleasant Mount Mo.

## SUGGESTIONS IN TIME.

What a Woman of Prominence in the Medical World Has to Say About Her Sex.

SYNOPSIS OF A LECTURE DELIVERED BY MRS. DOCTOR KENTON, BEFORE THE WOMAN'S SOCIETY OF NEW ENGLAND.

In all ages of the world, poets, scientists and men of prominence have looked with enthusiasm upon woman. The woman of the world is only within the last few years that she has begun to assert her right place, not only in society, but with the world in general. Why so desirable an end should have been so long delayed it is difficult to understand; but that it has at last come is certainly cause for gratitude. In her social sphere, in her mental development and especially in her physical improvement, woman has shown wonderful advancement and such as astonishes the world.

They who have made a careful investigation tell us that heathen women are more able to endure pain than are the women of civilization, but civilized women would resent the charge that they are weaker because they are civilized. A distinguished writer says: "If the women of civilization are less able to endure the taxation of their physical resources than are heathen women, it is a mere accidental circumstance and one within their control."

Let us consider for a moment the possibilities which present themselves to every woman. When the body is healthy beauty is certain to appear, even in features and forms once plain. Indeed, it is the only known way to become beautiful, and all other preparations, powders, stays and laces are contemptible delusions. With health and beauty in all their attractiveness a new life dawns.

## ENJOYMENT BEGINS

and all the luxurious attendants of a healthy body come forth. The maiden feels the glorious possibilities of life; the mother becomes conscious of the grandeur of maternity and the joys of a family. All this is not only woman's privilege, it is her duty, and it embodies the highest definition of "woman's rights."

After enumerating many of the blessings that follow perfect health the speaker continued:

All these desirable things can be accomplished, but in one way only. The Creator has given both woman and man perfect physical form, and each is constitutionally equal to all natural demands. It is a mistaken and pernicious notion that one is strong and the other weak. No curse was pronounced upon woman which did not apply with equal penalty against man. If women believe the fatalism that disease is a necessary condition of their existence it is chiefly because the disciples of the schools of medical practice have been utterly incapable of competing with the multitude of ills which, by personal carelessness or professional incompetence, they have permitted to fasten upon women.

A few weeks ago I received a call from a charming lady, whose earnest face clearly showed that she desired advice and assistance. Upon questioning her she stated that she believed she was suffering from a paralyzed liver and wished to know if I could in any way aid her recovery. Now, imperfect as her statement was in regard to the disease which troubled her, there is no doubt that

## THOUSANDS OF WOMEN

are suffering to-day, from similar troubles, who do not recognize their cause so nearly as this lady did. Paralysis means death of the member paralyzed and torpidity of the liver is the first stage of its dissolution. This is one of the most serious questions that can arise in the experience of any woman; for a torpid and diseased liver cannot be cured at once, and it carries with it the elements of disease to all the other parts of the system. With an imperfect liver, biliousness, languor, a sense of bearing down, constipation, displacements, uterine troubles and the thousand ills which are coupled in their train come thick and fast. Then follow impure blood and all the evils which an imperfect circulation cause. A derangement of the kidneys or liver causes disease in the organs which adjoin them just as certainly as a bad peach injures the other peaches in a basket. Not only this, but when these organs are in a healthy state the rest, and keep in order any irregularity which may occur in the lower portion of the body. No woman was ever seriously sick for any length of time when such was the case. No serious inflammation can occur when the blood is pure, or no blood can be impure when the liver and kidneys are in perfect order.

I have seen very much of the troubles and ills to which women have been subjected, and I have learned to sympathize while I have sought to relieve. In endeavoring to carry relief I have tried to be free from prejudice and have in view but one end, namely—to help those who are suffering; and I feel it is my privilege to-day to state that I believe there is a means whereby those women who are suffering can obtain complete relief and those who are in health be continued in its enjoyment. A few years ago a prominent and wealthy gentleman residing in Rochester, N. Y., was given up to die of Bright's disease of the kidneys. By means of a simple and purely vegetable remedy he was restored to perfect health, and has since been the means of saving the lives of many others. So efficient did

## HIS DISCOVERY

prove in the case of many well-known men, that it began also to be used by ladies, and to-day, thousands of women, in all parts of the land, owe their restored health and continued happiness to the wonderful power of Warner's Safe Kidney and Liver Cure. Mr. Warner has the written testimony of hundreds of the best ladies in the land, enthusiastically praising the remedy, and thankfully expressing their gratitude for health. These letters are sacred, and cannot be given to the public, but they overwhelmingly verify all the facts above stated. Nature has given woman a delicate, watchful, alert instinct and she has found this remedy to be what her sex for years has needed, to restore and maintain the perfection of nature. She resents the imputation that she is bound to suffer all the ills that attack her. She recognizes that suffering is but an incident in her existence, and that this incident is wholly within her control, if she can find the necessary helps which nature provides. The changeable character of our climate, the oftentimes exacting and enervating customs of society, of fashion and of necessity, all conspire to impair the vitality of women. If we add to these the exhausting duties of motherhood, and the mental anxiety for the success of her husband in all his laudable ambitions, which play upon her energies, is it surprising that thus burdened she should break down under the physical strain? By no means—on the contrary the wonder is that she has maintained her physical strength as she has.

I have not the time to elaborate this point. You yourselves very well know what the circumstances are which have rendered her life a burden. You also know that the

circumstances are which have rendered her life a burden. You also know that the

## PRIMARY CAUSE

of physical degeneration is impure blood. The performance of the natural functions of womanhood and motherhood is not a disease, nor should it be so treated. Disease is the result of the transgressions of physical laws by our ancestors or by ourselves, and the natural coursings of the blood should not be so considered. If, however, the blood be impure, it is certain to produce its poisonous effects in the parts with which it comes in contact, and thus cause inflammation and the innumerable ills that make the physical life of woman so hard to endure.

An enumeration of the troubles to which woman is subjected, and the adaptability of the remedy above named for their cure was then made by the speaker, who continued:

I am aware a prejudice exists against proprietary medicines, and that such prejudice is too often well founded, but we should discriminate in our judgments and not condemn all because some are inefficient. The merits of Warner's Safe Kidney and Liver Cure have been proven beyond a doubt, because they deal directly with the causes of all female troubles; they effect and control the body of the free rather than its branches. Warner's Safe Kidney and Liver Cure has indeed been a blessing for the rich; a boon to the poor. It has lifted men from a bed of death and restored them to vigor and health. But greater and better than this, it has come to woman, has raised her, restored her and kept her in constant hopefulness and health. It has kept back disease by fitting the system to resist its attacks; it has regulated the life, purified the sources of life, and brought innumerable blessings out of numberless woes.

The women of America, both young and old, have golden opportunities to-day than those of any land in any age. Their rights are more fully recognized, their privileges greater and their possibilities unlimited. They are permitted to enjoy life to its fullest extent, and to do this their bodies must be unimpaired. I congratulate the women of this free land that the keenness of their perceptions has led them to discover their necessities and what will satisfy them. I congratulate them that they, who have reaped the greatest benefits from the scientific researches of independent investigation, are to-day the most enthusiastic proclaimers of the merits of this great remedy of which I have spoken. The spirit of intolerance, I may say in conclusion, so rampant in this age of free investigation when all things are judged by what they are and not what they seem, must eventually give way to the better, wiser, nobler liberality in which alone can be found true security, true peace, true health and true happiness.—New York Home Journal.

## The Markets.

St. Louis, September 8, 1881.

[Prices herewith are for round lots in first hands. Small order lots charged at higher prices. Buyers pay first ten days' storage, except in special bins.]

Flour—Sales: 16 bbls at \$5.15, 75 at \$5.35, 141 at \$5.75, 120 at \$6.10, 160 at \$6.50, 87 at \$6.80, 375 at \$6.85, 25 at \$6.90, 130 at \$7.05, 250 at \$7.25, 60 at \$7.40 part del.

Rye Flour—Firm at \$6.60, as in kind. Corn Meal—Active and firm. Sales of city on orders at \$3.70 to \$3.75 del. Grits, hominy and pearl meal at \$4.70 to \$4.75 del.

Wheat—No. 2 red at \$1.40, No. 3 red at \$1.33, No. 4 at \$1.25, Mediterranean—No. 2 at \$1.40, No. 3 at \$1.33.

Corn—No. 2 mixed at \$2.10, No. 2 white-mixed at 75c, rejected white-mixed at 69c, rejected 65c.

Oats—No. 2 at 41c, mixed at 44c, prime at 44c.

Rye—Grade No. 2 at \$1.10. Samples at \$1.13.

Hay—Prime prairie at \$12, choice at \$12.25, prime timothy at \$16.17, 00, choice timothy at \$18.

Hemp—Common and undressed \$8.95; good to choice \$10.00 to \$11.50; dressed \$16.00 to \$19.00; shorts \$13.00 to \$15.00; hatched to \$50.00.

Butter—Market steady all round. The high price of fancy creamery causes consumers to turn to fine dairy, of which the proportion is small in the general receipts and price stiff. Medium and good to choice dairy also finds ready sale. We quote: Choice to fancy creamery 30¢ to 32¢; fair and ordinary makes 28¢ to 29¢; choice to fancy dairy 26¢ to 28¢; medium to choice 21¢ to 25¢; common, store packed, etc. 13¢ to 20¢.

Cheese—Firm. Full stock 10¢ to 13¢; good to choice, part skim 9¢ to 11¢; poor skim, old, etc. 2¢ to 6¢.

Livestock—Chickens in moderate supply, good demand and firm; ducks steady. Sales: Old chickens—hens \$2.25 to 2.40—cocks \$1.60 to 1.75; young—small to medium \$1.25 to 1.50; large \$1.75 to 2.00; young ducks \$1.25 to 2.25 as in size.

Game—We quote: Grouse young at 45¢, \$3.00 for old, wood duck \$1.50, woodcock \$5.00, sandpipers, and small plover 30¢ to 50¢ squirrel \$1.

Wool—Tab-washed choice at 39c, fair at 36¢ to 38¢, and low at 32¢ to 36¢. Unwashed medium 23c, choice 25c, low and coarse 18¢ to 21c. Black, cottoned and burry at 5¢ to 10¢ per lb less than fleeces in good condition.

Hides—Dull. Dry flint 16c—damaged 13c; dry salt 12c—damaged 11c; dry bull and stag 10c; green salt 9c—damaged 7c; green uncured 7c—damaged 6c; green bull and stag 5c to 6c. Glue stock at 3c green to 5c dry.

Feathers—Firm we quote: Prime L. G. at 61c in large to 62c in small sacks; urpie do 53¢ to 57c; old and mixed range from 10c to 30c; large 8¢ to 10¢ per cent.

Sheep Pelts—Green. Large \$1.25 to 1.40; shearings 40¢ to 50¢, dry flint shearings 15¢ to 25¢.

Potatoes—In steady demand and firm. Near-by growth selling mainly at 95¢ to \$1.10 per bu.

Sweet Potatoes—At \$3.50 per bbl; 40c per 1/2-bu box.

Deer Skins—Bug-eaten, salted and damaged at 10c to 30c; No 1 at 40c.

Apples—We quote: Consigned lots at 1.50 to 2 per bbl for poor to fair, 2.25 to 3.00 for choice, 3.50 for fancy; home-grown shipping stock at 1.15 to 2.25 per bbl packed.

Peaches—We quote, 1/2-bu box: Small to medium varieties at 25¢ to 60¢, 75¢ to 90¢ for choice and fancy; freestones at 1.25 but few of this kind offered.

Pears—Slow and easy. Sales, Bartlett—small and knotty at 75¢ to 90¢, fair to choice 60¢ to \$1.10, fancy at \$1.25, and common varieties at 50¢ to 75¢ per 1/2-bu box, California at 55¢ to 60¢ per box.

Grapes—Plenty and slow. We quote: Hartford at 2¢ to 3¢ per lb. Iron seedling 2¢ to 4¢. Concord 2 1/2¢ to 3¢, Delaware 7¢ to 8¢ for inferior, 10¢ to 12¢ for choice.

Bacon—Sell at from \$17.20—latter for dry buffalo.

WATERMELONS—Jobbing at \$1.16 per 100 for ordinary, and choice Georgia at 90¢ to 100¢ per car.

DEIRD Fruits—In demand and firm. Apples at 5¢ to 6¢ for fair to prime and 6 1/2¢ for bright new. Peaches at 6 1/2¢.

GRASS SEEDS—Demand only for timothy. New timothy 2 50 to 2 75 spot; millet 70¢ nominal.

HEMP SEED—Nominal at \$2.50 for prime cleaned held higher.

EMPTY BARRELS—Coal and other light oil barrels at \$1.15; whiskey do \$1.10.

FLAXSEED—Better and more doing; firm at \$1.30 pure test.

PEANUTS—Firmly held. Western 8¢ to 8 1/2¢, Texas 9 1/2¢ to 10 1/2¢.

PEANUTS—Demand only for choice. Red 2 1/2¢ to 2 3/4¢, white 3¢ to 4¢.

CASHEW BEANS—Not wanted above 1.85 for prime.

SALT—Domestic sells at 1.50 to 1.55 per bbl; G. A. at \$1.20 to 1.25 per sack.

Hops—N. Y. 1880 crop 23¢ to 25¢ from store. SCRAP IRON, ETC.—Burnt 20c, stove-plate 50c, plow 75c, heavy cast 70c, wrought \$1.10, brass \$1.13, copper 13c, zinc 3c, lead 3c.

RAGS—Country mixed at \$1.75 to 1.85 per 100 lb; old rope 2 1/2¢ per lb.

CATTLE—Export steers \$6.00 to \$6.22, good to heavy steers \$6.40 to \$6.55, medium to fair steers \$4.75 to \$5.25, fair to good Colorado steers \$4.75 to \$5.50, fair to good stockers \$3.00 to \$3.50, fair to good feeders, 1,000 to 1,100 lbs. \$3.60 to \$4.00, native cows, common to choice \$2.00 to \$4.00, native heifers, fair to choice \$2.25 to \$4.25, common to choice native open \$3.00 to \$4.25, good to choice corn-fed Texas steers \$4.00 to \$5.00, medium to fair corn-fed Texas steers \$3.25 to \$3.75, inferior to common mixed \$3.00 to \$3.45, common to good grass Texas 2¢ to 2.25, milch cows with calves \$1.00 to \$3.00, real calves 50¢ to \$1.00, Scalawags of any kind 1.60 to 2.00.

SHEEP—Common to medium muttons \$2.40 to \$3.00; fair to good muttons \$3.25 to \$3.50; good to choice muttons \$3.75 to \$4.85; stock sheep \$2.25 to \$2.55; lambs per head \$1.50 to \$3.80.

Hogs—Yorkers \$6.35 to \$6.50, good to heavy shipping \$6.65 to \$6.90, fair to good heavy shipping \$6.00 to \$6.50, coarse and rough \$5.75 to \$6.00, pigs \$4.90 to \$5.50, stockers \$3.50 to \$4.50.

A Timely Warning, or The Experience of a Minister.

If you suffer from general debility, brought on by too close application to business and excessive brainwork; or from increasing prostration and sinking spells, that even a rest or removal of the cause will not relieve, make haste to do as did a reverend friend of ours. He secured from his druggist a bottle of Brown's Iron Bitters, having heard of its merit from a physician, who told him not to take any other Bitters or Tonic, for with the exception of Brown's Iron Bitters, they all contained alcohol, and had failed to give his patients lasting relief; nor should he take any other preparation of Iron, for with the exception of Brown's Iron Bitters, they all blackened the teeth, and often gave headache, which Brown's Iron Bitters never did, but in fact cured headache. The effect was most satisfactory; he immediately realized wonderful results. His old energy returned, his natural force came back, and he felt himself altogether a new man, full of health, strength and vigor, and he has continued to remain so ever since. Now he recommends Brown's Iron Bitters to all his friends which we unhesitatingly do to all our readers.—Globe.

The best preventive of consumptive diseases of the lungs, bowels or kidneys is Brown's Iron Bitters. It checks all decay.

Millet is excellent for small chickens, being easily swallowed by them. Sunflower seed may be fed freely. It promotes laying, increases the gloss of the plumage, and the general health.

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